

or non-native anthropologists but must be conducted by anthropologists who are actively engaged in Arab society and not only by those for whom this society is simply a source of data. The anthropological literature that is being produced in Arabic must become part of Western anthropological scholarship and vice versa. The responsibility rests, as it should, on both sides.

References Cited

- ALI, HAIDAR IBRAHIM. 1986. "Ilm al-ijtima' wal sira' al-idiyoloji fil mujtama' al-'arabi" (Sociology and ideological conflict in Arab society), in *Nahw 'ilm ijtima' 'arabi* (Towards an Arab sociology), pp. 107–37. Beirut: Markaz dirasat al-wihdah al-'arabiyah.
- AL-SAYYED, RADWAN. 1981. Al-Jami' wal madrasa wal jami'a-tarikhyyat al-'ilm al-islami wa jughrafiyyat al-mu'assah al-haditha (The mosque, the madrasa, and the university: The historicity of Islamic scholarship and the geography of the contemporary institution). *Al-Fikr al-'Arabi*, no. 20, pp. 4–10.
- . 1985. Mushkulat al-bahth al-ijtima'i al-'arabi (Problems of Arab sociological research). *Al-Fikr al-'Arabi*, nos. 37–38, pp. 4–13.
- ARKOUN, MOHAMMAD. 1986. *Tarikhyyat al-fikr al-'arabi al-islami* (The historicity of Arabic Islamic thought). Beirut: Markaz al-inma' al-Qawmi.
- ASAD, TALAL. Editor. 1973. *Anthropology and the colonial encounter*. New York: Humanities Press.
- FAHIM, HUSSEIN. 1986. *Qissat al-anthropolojia* (The story of anthropology). Kuwait: Silsilet ilm al-ma'rifah.
- GLAVANIS, KATHY, AND PANDELI GLAVANIS. 1983. The sociology of agrarian relations in the Middle East: The persistence of household production. *Current Sociology* 31 (2):1–109.
- HIJAZI, MOHAMMAD IZZAT. 1986. "Al-azma al-rahina li-'ilm al-ijtima' fil watan al-'arabi" (The current crisis of sociology in the Arab world), in *Nahw 'ilm ijtima' 'arabi*, pp. 13–44. Beirut: Markaz dirasat al-wihdah al-'arabiyah.
- IBRAHIM, SAAD-EDDIN. 1982. *The new Arab social order*. Boulder: Westview Press.
- KHALIL, KHALIL AHMAD. 1981. Al-jami'a wal dimuqratiyyah fi duruf taba'iyat al-dawla wa thawriyyat al-mujtama' (The university and democracy in the light of the dependency of the state and the revolt of society). *Al Fikr al-'Arabi*, no. 20, pp. 169–74.
- LANE, EDWARD WILLIAM. 1936 (1836). *An account of the manners and customs of the modern Egyptians*. London: J. M. Dent.
- LAROU, ABDALLAH. 1976. *The crisis of the Arab intellectual*. Berkeley: University of California Press.
- MUNDY, MARTHA. 1984. Social anthropology in the university. Paper presented at the conference "Anthropology in Jordan: State of the Art," Amman, Jordan, February 25–28.
- NAJJAR, SHUKRI. 1981. Al-jami'a wa wadifatuha al-ijtima'iyyah wal 'ilmiyyah (The university and its social and scientific function). *Al-Fikr al-'Arabi*, no. 20, pp. 146–50.
- QUANSUH, SALAH. 1981. Mu'awiqat al-bahth al-'ilmi fil mujtama' al-'arabi (The constraints on scientific research in Arab society). *Al-Fikr al-'Arabi*, no. 20, pp. 227–32.
- SAID, EDWARD. 1978. *Orientalism*. New York: Vintage Books.
- SILBERMAN, NEIL ASHER. 1982. *Digging for God and country: Exploration, archaeology, and the secret struggle for the Holy Land 1799–1917*. New York: Knopf.
- SMITH, WILLIAM ROBERTSON. 1903. *Kinship and marriage in early Arabia*. London: A. and C. Black.
- TURNER, BRYAN. 1978. *Marx and the end of Orientalism*. London: Allen and Unwin.
- ZAHLAN, ANTOINE. 1979. *Al-'ilm wal siyasah al-'ilmiyyah fil watan al-'arabi* (Science and scientific policy in the Arab world). Beirut: Markaz dirasat al-wihdah al-'arabiyah.

Causes of Conjugal Dissolution: A Cross-cultural Study¹

LAURA BETZIG

Evolution and Human Behavior Program, University of Michigan, 1524 Rackham Building, Ann Arbor, Mich. 48109–1070, U.S.A. 16 III 89

The state of society indicated by the consanguine family points with logical directness to an anterior condition of promiscuous intercourse. There seems to be no escape from this conclusion, although questioned by so eminent a writer as Mr. Darwin. [Morgan 1877:410]

Omnigamy, thought Morgan, McLennan (1865), and many of their contemporaries (including Engels 1884), probably characterized the first human societies: everyone was free to mate with everyone else and did so. That fantasy, along with many others, expired on encountering the evidence, and a century after Morgan, McLennan, Engels, and Darwin the consensus is that marriage comes as close to being a universal as anything about human behavior can (e.g., Murdock 1949). There is still, however, no consensus as to why. Marriage has been supposed to serve an assortment of functions, prominent among them economic, social, and reproductive ones. Of these the economic have recently received most attention. In his classic *Social Structure*, Murdock (1949) argued that marriage and the nuclear family following from it fulfill economic, reproductive, and sexual functions; but since sex could be had outside of marriage and reproduction seemed to him to follow sex as a matter of course, he concluded that economic cooperation, based on the division of labor between man and woman, might be the main reason people everywhere marry. Following Murdock's first test, several cross-cultural studies have found significant correlations between women's contribution to subsistence and the proportion of men married polygynously. This correlation has been replicated on the World Ethnographic Sample (Heath 1958), the *Ethnographic Atlas* (Goody 1976:129), and the Standard Cross-Cultural Sample (White, Burton, and Dow 1981; see also White 1988, White and Burton 1988). People may also marry to raise economically valuable children. According to Caldwell (1976, 1982) and many others, people raise children to help support them either in

1. © 1989 by The Wenner-Gren Foundation for Anthropological Research. All rights reserved 0011-3204/89/3005-0005\$1.00. The bulk of the evidence for this study was gathered in 1982, under a fellowship from the Department of Anthropology at Northwestern University and with the counsel of Malcolm Dow. Currently, I thank the Program in Evolution and Human Behavior and the Museum of Zoology at the University of Michigan for support. Paul Turke, Mark Flinn, Richard Alexander, Leslie Faron, anonymous referees, and especially Douglas White made helpful suggestions; Lex Turke and Max Betzig provided inspiration.

adulthood (e.g., Nag, White, and Peet 1978; Paige and Paige 1981:43–46) or in old age (e.g., Cain 1981 and ethnographies from a wide variety of societies).

Marriage has been explicitly argued to serve social functions. Stephens (1963), in his cross-cultural study of the family, has suggested that multiple marriage—polygyny—is sometimes sought as a means to prestige and status, and Clignet (1970), in his study of African polygyny, has stressed that marriage cements political alliances with affinal and genetic ties. Many have identified social correlates of marriage (see, e.g., Stephens 1963; Whiting 1964; Goody 1976; Hartung 1976, 1982; Paige and Paige 1981; Ember and Ember 1983; White and Burton 1988). Few, however, have suggested that marriages are made primarily to serve social functions.

Finally, Darwin's own theory (1859, 1871) suggests that people may marry for the sake of reproduction. Obviously, reproduction is accomplished without marriage in the vast majority of organisms, but where, as in the human species, young benefit enough by being cared for by both parents, parents appear to have evolved to cooperate in order to provide such care (see, e.g., Alexander and Noonan 1979, Lancaster and Lancaster 1983, Turke 1984). A prospective parent of such a species should choose a mate for his or her willingness and ability to help raise offspring (see, e.g., Strassmann 1981, Bateson 1983, Kurland and Gaulin 1984). "Ability" should include whatever social and economic resources contribute to reproduction; "willingness" should include some guarantee that those resources will not be spent on unrelated young via either adultery or polygamy (see Trivers 1972, Orians 1969; for a review, see Betzig 1988a).

In an attempt to understand why people marry, this study asks why they divorce.

People are often unaware of their motives and even when they are aware of them do not always choose to make them known (Alexander 1987). This may be one reason that there has been so much discussion on the subject of marriage and divorce. Though it may be clear to all concerned that a divorce has occurred, the reasons for it may be clear to no one. Deception, intentional or accidental, is possible on three levels: the husband and wife may deceive themselves about why they divorced; they or others may deceive the ethnographer; and the ethnographer may deceive his or her readers. If such deceptions were random, then there would be little or no consistency to the causes people named. There are, however, clear patterns in these causes, and some of them are very widespread. Alternatively, the deceptions at any level may be biased in the same direction. Ethnographers, for instance, might share preconceptions about why people divorce. The best evidence against this scenario is the fact that theories have sometimes been contradicted by the ethnographers' own findings (e.g., Cohen 1971) and the fact that most theories are inconsistent with at least part of the comparative evidence (see below).

Data on divorce were collected on societies of the

Standard Cross-Cultural Sample (Murdock and White 1969). Causes of conjugal dissolution were recorded whether (1) listed by the ethnographer him- or herself as the authority, (2) credited to a specific informant or group of informants, or (3) derived from an anecdotal account. In a few cases, where divorce was not socially condoned, causes were recorded for permanent separation. Causes for the dissolution of unions with mistresses, concubines, or lovers not socially recognized as marriage partners were omitted, as were causes of dissolution by death.

A short list of authoritative ethnographic accounts for each specific time and place identified in the sample has accumulated in bibliographies attached to the first sets of codes (see Murdock and Morrow 1970, Barry and Paxson 1971, Murdock and Wilson 1972, Tuden and Marshall 1972, Barry et al. 1976). With few exceptions, the data in this study were collected from these accounts (see appendix). Some causes were certainly missed; not every article, manuscript, and book listed was accessed, and in those that were some causes of divorce were undoubtedly overlooked. For 5 of the sample societies—Mao (Cerulli 1956:25), Andamanese (Man 1932b:67), Cayapa (Barrett 1925:329–30), Inca (Cobo 1893:184), and Tehuelche (Musters 1873:187)—divorce is reported to be rare or absent, and no causes of conjugal dissolution are mentioned. For another 13 societies—Kafa, Russians, Armenians, Khmer, Negri, Pentecost, Fijians, Gilbertese, Atayal, Slave, Saulteaux, Warrau, and Cayua—ethnographers neither report the infrequency of divorce nor mention its cause. For 6 societies—Massa, Bogo, Nubians, Lamet, Tobelorese, and Ajie—authoritative accounts were all in foreign languages, and for 2—Basques and Kutenai—accounts in English were unavailable. I can think of no reason that these omissions should bias the results in any way. The present study, then, is of causes of conjugal dissolution taken from authoritative accounts on 160 standard-sample societies.

The raw coded data on causes of conjugal dissolution are compiled in table 1. A glance at it suggests that not all ethnographers have paid equal attention to the problem. In some societies, notably African groups, the literature on divorce is large; in others relatively little attention has been given to conjugal dissolution. The absolute frequencies of different causes cannot, therefore, be inferred from the data presented here. What should be inferred is their relative importance.

As Dow (e.g., 1987) has repeatedly pointed out, claims that cross-cultural evidence supports general theories of behavior are strengthened when regional differences are controlled. Table 2 shows how often each specific cause of conjugal dissolution is reported for each of the major world areas distinguished by Murdock and White (1960). The most common causes reported for the sample as a whole are common in each of these regions as well. In only three cases are causes significantly more common in one region than another. Cruelty or maltreatment is more often reported as a cause of divorce in South American than in East Eurasia ($\chi^2 = 4.357$, $p = .0369$, for a

TABLE I
Causes of Conjugal Dissolution

Society	Infidelity	Infertility	Personality	Economics	In-laws	Absence	Health	Ritual	Politics
1 Nama	c	—	—	—	—	—	—	—	—
2 !Kung	Hp,Wl,a,c	s	Hd,m	s	—	—	—	—	—
3 Thonga	Wa	Ws,d	Wq,m	Hfc	—	—	—	Ww	—
4 Lozi	Hpc,Wa	Hn,Ws	Wd	Hsh	Hko,Ws	Ha	Hh	—	—
5 Mbundu	Hc,Wa	Hs,Wr,d	Wqbo	Wp	—	—	Wh	—	Wt
6 Suku	—	Ws,d	—	—	—	—	—	Ht,Wwt	—
7 Bemba	Hl	Hs	Hb	—	Wk	—	—	—	—
8 Nyakyusa	—	—	—	—	—	—	—	Wwt	—
9 Hadza	—	—	—	Ho	Hs	Ha	—	—	—
10 Luguru	Hc,Wa	Hs	—	Wl	—	—	—	w	—
11 Kikuyu	Hc,Wa	Hsn,Wsr	—	—	—	Ha,Wa	—	Hw,Ww	Ht,Wt
12 Ganda	Hpc,Wal	Wo	Hd,m	Hhfc,Wfv	Wk	—	—	Hw	—
13 Mbuti	—	s	—	—	—	Wa	—	—	—
14 Nkundo	Hpc,a	Hsn,Wr	m	Hs	Wk	—	Hh	Ht	t
15 Banen	—	s	—	—	—	—	—	—	—
16 Tiv	—	Ws,e	—	Hs	—	—	—	—	—
17 Ibo	Hc,Wl	Hn	—	—	Hb	—	—	—	—
18 Fon	Wl	Hs,Wo	Wdb,m	Hs	Hdco	—	—	—	—
19 Ashanti	Hap,Wa	Hsn,Wsr	Ho,Wq	Hhfc	Hcko	Ha	Wh	Hw,Ww	—
20 Mende	Hc,Wal	Wr,d	—	—	Ho,Wsc	Wa	—	Ww	—
21 Wolof	Hapc,Wa	Hs,Wso	—	Hso	Hb	Ha	Hh,Wh	Hwo,Ww	—
22 Bambara	—	—	Hd,Wd	—	—	—	—	—	—
23 Tallensi	Wa	Hn,Ws	Hdo,Wb	Hf,Wl	Hbo	—	—	Wwt	Wt
24 Songhai	Hpc,Wa	Hsn,Wsr,m	—	Hf	Ho	—	—	Ho,Wo	—
25 Fulani	Hp,Wad	Ws	Wo	Hco	—	Ha	—	—	Wt
26 Hausa	Hapcr,Wac	Hn,Wro,s	—	—	—	Ha,Wa	—	—	—
28 Azande	Hp	—	—	Wo	Hb	—	—	—	—
29 Fur	Hc,Wa	—	Wq	Hs,Wl	—	—	—	—	Ht,Wt
30 Otoro	Hc,Wal	Hs	—	—	—	Ha	HhWh	Ww	Hc,Wt
31 Shilluk	Wl	Ws	—	—	—	—	—	—	—
34 Masai	—	Ws	—	—	—	—	—	—	—
35 Konso	Hc,Wl	Hn	—	—	—	—	—	—	—
36 Somali	Wa	Hs	—	—	Hb	—	—	—	—
37 Amhara	Hc,Wd	Ws	—	—	—	Ha	—	o	—
40 Teda	Wv	—	—	—	—	—	—	—	—
41 Tuareg	Hac,Wa	Hs,Ws	Hd,m	Hs	Hb,Wo	—	h	—	Ht
42 Riffians	Wa	Ws	—	—	—	—	—	—	—
43 Egyptians	—	s,d	—	Wp	c	—	—	—	—
44 Hebrews	Wad	—	Wd	—	Wo	—	—	—	—
45 Babylonians	Ha,Wad	—	—	—	—	—	—	—	—
46 Rwala	Wl	d	Wd,m	—	—	—	—	—	o
47 Turks	Hp,Wal	Ws,d,m	Wd	Wv	Wc	—	Wh	—	—
48 Ghag	—	s	Hd	—	—	—	—	—	—
49 Romans	Wd	Wso	Hd,Wd,m	Wo	—	—	Hh	—	o
51 Irish	—	Ws	—	—	—	—	—	—	—
52 Lapps	—	Ws	—	—	—	—	—	—	—
53 Yurok	—	—	Wd	—	—	—	—	—	—
55 Abkhaz	Hc	Hs,Ws	Hd,Wd	Wl	Wd	—	—	—	—
57 Kurd	Wv	Ws	Wd,m	—	—	—	—	—	—
58 Basseri	Wv	—	—	—	—	—	—	—	—
59 Punjabi	Hc	—	Wd,m	Hs	—	Ha	Hh	Wo	Hc
60 Gond	Wa	Hs	—	—	—	—	Hh	—	—
61 Toda	—	s	Wo	Wl	—	—	Hh	—	—
62 Santal	Wa	—	—	—	Wc	—	Wh	Ww	—
63 Uttar Pradesh	—	—	Hd,m	—	—	—	—	—	—
64 Burusho	Wa	s	—	Wo	Wc	—	—	—	—
65 Kazak	Hc,Wad	Hs,Wso	Hd,Wd,m	—	—	Ha	—	—	—
66 Khalka Mongols	Hal,Wal	—	—	Ho	Wc	—	Hh	—	—
67 Lolo	Hl,Wl	—	Wd	—	—	—	—	—	—
68 Lepcha	Hl,Wal	—	m	Wo	—	—	—	—	—
69 Garo	Ha,Wa	—	Hd,Wd,m	—	—	—	—	—	—
70 Lakher	Wa	Hs	—	—	—	—	Hh,Wh	—	—
71 Burmese	Wd	m	—	Hsl	—	—	Hh	—	—
73 Vietnamese	—	s	Hd,Wd,m	—	—	—	—	—	—
74 Rhade	Hl,a	Hs	—	—	—	—	—	Ht,Wt	—
76 Siamese	Hc,Wl	—	—	—	—	—	—	—	—

TABLE I
Continued

Society	Infidelity	Infertility	Personality	Economics	In-laws	Absence	Health	Ritual	Politics
77 Semang	—	Hs	Hd,m	Hl	—	Ha	—	—	—
78 Nicobarese	—	s	—	—	—	—	—	—	—
80 Vedda	—	—	—	Hsl	o	—	—	—	—
81 Tanala	Hapc,Wa	—	Wd	—	—	—	—	Ht	—
83 Javanese	Hacl,Wal	—	Wd,m	Hs,Wo	o	Ha	—	—	—
84 Balinese	Hc,Wa	Hs,Ws	Wq	Hs,Wl	—	—	Hh	—	—
85 Iban	Wal	s	Wbo,m	Hs,l	Ho,Wc	—	—	d	—
86 Badjau	—	s	m	l	o	—	—	—	—
87 Toradja	Hpcj,Wj	s,d	m	Hhlo,Wvplo	Hdc,Wd	Ha	—	—	Ht,Wt
89 Alorese	Hp,Wal	d	Ho	—	o	—	—	—	—
90 Tiwi	—	—	Hd	—	Hs	—	—	—	—
91 Aranda	Wl	—	—	—	—	—	—	—	—
92 Orokaiva	Hp,Wa	—	—	Wv	—	—	—	—	—
93 Kimam	Ha,Wa	—	—	—	—	—	—	—	—
94 Kapauku	Hpc	Ws	Wd	Hso	—	—	—	—	—
95 Kwoma	Wa	s	—	Wv	—	—	—	—	—
96 Manus	Hpc	Wr,s,d	Hd,o	Hlo,Wlo	Hkc	—	—	o	—
97 New Ireland	Hal,Wal	—	—	Hsflo,Wpo	—	Ha	—	—	—
98 Trobrianders	Hacj,Wlj	—	Hd,m	Hlo	o	—	—	—	—
99 Siuai	Wa	—	Hb,Wb	Wvo	Wc	—	—	Hw	—
100 Tikopia	Wal	s	m	—	—	—	—	—	—
104 Maori	Wa	—	Hd,m	—	—	—	—	—	o
105 Marquesans	Wl	—	Hd,m	—	—	—	—	—	—
106 Samoans	—	—	m	—	—	—	—	—	—
108 Marshallese	Wal	—	m	—	o	—	—	—	o
109 Trukese	Ha,Wal,d	—	Hd,m	l	Ho	—	—	—	—
110 Yapese	Hac,Wa	d	Hd,Wd,m	—	—	—	—	—	—
111 Palauans	Wa	—	Hd,Wd,m	—	Hs,Ws,o	—	—	—	—
112 Ifugao	Hapl,Wal,j	Hn,Wr,s,d	Hdo,Wdo	Hlo,Wlo	Hsc,Wc,o	—	Hh	d,o	—
114 Chinese	Wa	Ws	—	—	Wc	—	—	—	—
115 Manchu	Wa	—	Wo	—	—	—	Wh	—	—
116 Koreans	Wad	Ws	Wqd	Wl	—	—	—	Wo	Wt
117 Japanese	—	Ws	m	—	Wc	—	—	—	—
118 Ainu	Wadl	m	m	Wplo	—	—	—	—	—
119 Gilyak	Hp,Wl	—	—	—	—	—	—	—	—
120 Yukaghir	—	Hs,Ws	—	—	Hc	—	—	Ho,Wo	o
121 Chukchee	Wa	—	Wd	—	Hc,Wc,o	—	h	—	—
122 Ingalik	Wd	—	—	—	—	—	—	—	—
123 Aleut	Wa	Ws	—	—	—	—	—	—	—
124 Copper Eskimo	Hc	—	—	—	—	—	—	—	—
125 Montagnais	Hc,Wad	Hs,Ws	—	Wo	—	—	—	—	—
126 Micmac	—	Ws	m	—	—	—	—	—	—
129 Kaska	Hl,Wl,a,c	Ws	—	o	—	—	—	—	—
130 Eyak	Ha,Wa	—	—	—	Hc	—	—	—	o
131 Haida	Wa	—	—	—	—	—	—	—	—
132 Bellacoola	Hc,Wavdl	Hsn,Ws	—	Wo	—	Ha,Wa	Wh	—	—
133 Twana	Hc,Wa	Ws	Wo	Wl	—	—	—	—	—
134 Yurok	Hcj	s	Hd,Wd	Wl	—	—	—	—	—
135 Pomo	—	s,d	Wd	—	—	—	—	—	—
136 Yokuts	—	Ws	Wqo,m	Hlo,Wlo	—	—	—	—	—
137 Paiute	Hapcl,Wacl	—	Wo	Ho,Wp	—	—	—	—	—
138 Klamath	Hap,Wa	Hs	m	—	—	—	—	—	—
140 Gros Ventre	Wa	Hn	—	—	—	—	—	—	—
141 Hidatsa	Hcj,Waj	—	—	—	Hc	—	—	—	—
142 Pawnee	Ha,Wav	—	—	Hsl	—	—	—	—	—
143 Omaha	Hc,Wa	—	—	—	—	—	—	—	—
144 Huron	—	—	Hd,Wd	—	—	—	—	—	—
145 Creek	Wad	—	Hd,Wqd,m	—	Wlv	—	—	—	—
146 Natchez	Wa	—	—	—	—	—	—	—	—
147 Comanche	—	—	—	—	Hc	—	—	—	—
148 Apache	Hacj,Wavcj	Hsn,Wsr	Hq,Wq,m	Hslo,Wlo	Hc,Wc	—	—	—	—
149 Zuni	Hacl,Wac	—	Hd,Wd,m	—	Hc	—	—	—	—
150 Havasupai	Hc,Wac	—	Hq,Wq	Hl,Wl	—	—	—	—	—
151 Papago	Hpl,Wl	—	Hd,b	—	—	—	—	—	—
152 Huichol	Ha	—	—	—	—	—	—	—	—
153 Aztec	Hc	Ws	Ho,Wb	Hs,Wl	—	—	—	—	—

TABLE 1
Continued

Society	Infidelity	Infertility	Personality	Economics	In-laws	Absence	Health	Ritual	Politics
154 Popoluca	—	—	m	—	—	—	—	—	—
155 Quiche	Hac,Wa	Ws	Hd	Hl,Wl	—	—	Hh	—	—
156 Miskito	Hc	s	m	Hl	—	—	Hh	—	—
157 Bribri	Wl	—	Hd,Wd	—	—	—	—	—	—
158 Cuna	a	—	m	—	Hsc	—	—	—	—
159 Goajiro	Hc,Wa	—	—	Hs	—	Ha	—	—	—
160 Haitians	—	Wr	—	Ho	—	—	—	—	—
161 Callinago	Wa	Hn	—	—	—	Ha	—	—	—
163 Yanomamö	Hc	—	—	—	—	Ha	—	—	—
164 Carib	Hc	—	m	—	—	Ha	—	—	—
165 Saramacca	Wl	Hs,Ws	Hd,Wd	Hs	—	—	—	—	—
166 Mundurucu	Ha,Wa	—	—	Hl,Wl	Hc	—	—	—	—
167 Cubeo	Hc,a	Ws,d	Hd	—	—	—	—	—	—
169 Jivaro	Wa	—	—	—	—	—	—	—	—
170 Amahuaca	Ha,Wa	—	—	Hl,Wl	—	—	—	—	—
172 Aymara	Wa	Ws	—	—	—	—	—	—	—
173 Siriono	Wa	Hn,Wr	—	—	—	—	—	—	—
174 Nambicuara	—	Wo	—	—	—	—	—	—	—
175 Trumai	Hp	—	Hd,Wd	—	—	—	—	—	—
176 Timbira	Hac,Wa	Ws	—	—	—	—	—	—	—
177 Tupinamba	Hc	—	—	—	—	—	—	—	—
178 Botocudo	—	—	Hd,Wd	—	—	—	—	—	—
179 Shavante	Hc	—	—	—	—	Ha,Wa	—	—	o
180 Aweikoma	Hp,Wa	—	—	—	—	—	—	—	—
182 Lengua	—	s	—	—	—	—	—	—	—
183 Abipon	—	Wo	Wd	—	—	—	—	—	—
184 Mapuche	Hpcl,Wal	—	Hd	—	Wkc	Ha	—	—	—
186 Yaghan	Hacl,Wal	—	Hd,Wb,m	Hs,Wl	Ho	—	—	—	—

NOTE: *H*, husband; *W*, wife. Codes for particular offenses in each category are as follows: Infidelity, *a*, adultery; *v*, lack of virginity; *p*, polygyny (cospouse conflict); *c*, cruelty or maltreatment; *d*, disobedience or disrespect; *r*, repressiveness; *j*, jealousy; *l*, elopement with lover; Infertility, *s*, sterility; *n*, sexual neglect; *r*, refusal to have sex; *d*, death of children; *o*, old age; *m*, absence of male children; *e*, exchange wife has too few children; Personality, *m*, mutual consent; *d*, displeasingness; *q*, quarrelsomeness or talkativeness; *b*, bad temper; *o*, other; Economics, *l*, laziness; *s*, inadequate support; *h*, inadequate housing; *f*, inadequate food; *c*, inadequate clothing; *p*, inadequate food preparation; *v*, inadequate service of spouse; *o*, other; In-laws, *c*, conflicts with in-laws; *s*, inadequate service of in-laws; *b*, bridewealth or dowry disputes; *d*, disrespect for in-laws; *k*, spouse favors kin; *o*, other; Absence, *a*; Health, *h*; Ritual, *w*, witchcraft or sorcery; *t*, broken taboo; *d*, bad dream or omen; *o*, other; Politics, *t*, theft; *c*, conviction or incarceration; *o*, other.

contingency-table test comparing 4:116 with 11:84); laziness is a more common cause in North America than in Africa ($\chi^2 = 4.530$, $p = .0333$, for a contingency-table test comparing 2.167 with 8.116 [note, however, that the expected value in one cell is less than 5]); and poor health is a more common cause in East Eurasia than in North America ($\chi^2 = 6.4$, $p = .0114$, for goodness-of-fit test comparing 1:5 with 9:5). Cruelty may be as common in East Eurasia as it is in South America but better tolerated by wives in the former region's strongly patrilineal societies; and laziness seems to be less often reported as a cause of divorce where more specific complaints, such as failure to provide adequate housing, food, or clothing, are *more* often reported. Overall, then, frequencies of causes of conjugal dissolution should not be much affected by disproportionate representation from any one region; conclusions should hold for the sample as a whole.

One last problem merits discussion: To what extent do causes of divorce bear on theories of marriage? Certainly, people may marry for one set of reasons and later

divorce for another. These causes reflect not why people marry in the first place but what conditions must be met in order for the marriage to last.

CAUSES OF CONJUGAL DISSOLUTION

Infidelity. Conjugal dissolution follows from adultery in 88 societies (table 3). This makes adultery a significantly more common cause than any other except sterility ($\chi^2 = 8.141$, $p = .0043$, for a goodness-of-fit test comparing 88:71 and 54:71). In 25 societies, divorce follows from adultery by either partner; in 54 it follows only from adultery on the wife's part and in 2 only from adultery on the husband's. If marriage qualifies as near universal, so must the double standard. Almost every one of the causes of conjugal dissolution that might be related to infidelity is ascribed significantly more often to one sex than to the other. In the 2 cases in which the double standard appears to be reversed, the adulterous wife does not get off lightly. Of one of these cultures, the Huichol of western Mexico, little more is written than that, after

TABLE 2
Causes of Conjugal Dissolution by Region

Cause	Number (and Percentage) of Reports						
	A	C	E	I	N	S	All
Adultery	12 (7.19)	11 (9.48)	15 (12.93)	17 (10.90)	19 (16.38)	14 (16.67)	88
Sterility	18 (10.78)	16 (13.79)	13 (11.21)	9 (5.77)	12 (10.34)	7 (8.33)	75
Cruelty or maltreatment	11 (6.59)	8 (6.90)	4 (3.45)	7 (4.49)	13 (11.21)	11 (13.10)	54
Displeasingness	6 (3.59)	8 (6.90)	11 (9.48)	11 (7.05)	6 (5.17)	9 (10.71)	51
Mutual consent	5 (2.99)	4 (3.45)	9 (7.76)	13 (8.33)	7 (6.03)	4 (4.76)	42
Elopement with lover	8 (4.79)	3 (2.59)	7 (6.03)	11 (7.05)	5 (4.31)	4 (4.76)	38
Laziness	2 (1.20)	2 (1.72)	6 (5.17)	9 (5.77)	8 (6.90)	5 (5.95)	32
Polygyny	6 (3.59)	5 (4.31)	2 (1.72)	6 (3.85)	3 (2.59)	3 (3.57)	25
Conflicts with in-laws	3 (1.80)	2 (1.72)	7 (6.03)	5 (3.21)	5 (4.31)	3 (3.57)	25
Absence or desertion	7 (4.19)	4 (3.45)	3 (2.59)	3 (1.92)	1 (0.86)	6 (7.14)	24
Health	5 (2.99)	4 (3.45)	9 (7.76)	2 (1.28)	1 (0.86)	2 (2.38)	23
Inadequate support	5 (2.99)	3 (2.59)	3 (2.59)	5 (3.21)	2 (1.72)	3 (3.57)	21
Sexual neglect	6 (3.59)	3 (2.59)	0 (0.00)	1 (0.64)	3 (2.59)	2 (2.38)	15
Disobedience or disrespect	0 (0.00)	5 (4.31)	4 (3.45)	1 (0.64)	4 (3.45)	0 (0.00)	14
Death of children	4 (2.40)	3 (2.59)	0 (0.00)	5 (3.21)	1 (0.86)	1 (1.19)	14
Witchcraft or sorcery	10 (5.99)	1 (0.86)	1 (0.86)	1 (0.64)	0 (0.00)	0 (0.00)	13
Refusal to have sex	5 (2.99)	2 (1.72)	0 (0.00)	2 (1.28)	1 (0.86)	2 (2.38)	12
Quarrelsomeness or talkativeness	3 (1.80)	1 (0.86)	1 (0.86)	1 (0.64)	4 (3.45)	0 (0.00)	10
Bad temper	4 (2.40)	0 (0.00)	0 (0.00)	2 (1.28)	3 (2.59)	1 (1.19)	10
Theft	5 (2.99)	3 (2.59)	1 (0.86)	1 (0.64)	0 (0.00)	0 (0.00)	10
Old age	2 (1.20)	3 (2.59)	1 (0.86)	0 (0.00)	0 (0.00)	2 (2.38)	8
Inadequate service	1 (0.60)	1 (0.86)	0 (0.00)	4 (2.56)	1 (0.86)	0 (0.00)	7
Inadequate service of in-laws	3 (1.80)	0 (0.00)	0 (0.00)	3 (1.92)	0 (0.00)	1 (1.19)	7
Spouse favors kin	5 (2.99)	0 (0.00)	0 (0.00)	1 (0.64)	0 (0.00)	1 (1.19)	7
Jealousy	0 (0.00)	0 (0.00)	0 (0.00)	3 (1.92)	3 (2.59)	0 (0.00)	6
Lack of virginity	0 (0.00)	2 (1.72)	1 (0.86)	0 (0.00)	3 (2.59)	0 (0.00)	6
Inadequate food	4 (2.40)	1 (0.86)	0 (0.00)	1 (0.64)	0 (0.00)	0 (0.00)	6
Inadequate food preparation	1 (0.60)	1 (0.86)	1 (0.86)	2 (1.28)	1 (0.86)	0 (0.00)	6
Bridewealth or dowry disputes	3 (1.80)	3 (2.59)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	6
Broken taboo	4 (2.40)	0 (0.00)	2 (1.72)	0 (0.00)	0 (0.00)	0 (0.00)	6
Absence of male children	0 (0.00)	2 (1.72)	2 (1.72)	0 (0.00)	0 (0.00)	0 (0.00)	4
Inadequate housing	3 (1.80)	0 (0.00)	0 (0.00)	1 (0.64)	0 (0.00)	0 (0.00)	4
Inadequate clothing	3 (1.80)	1 (0.86)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	4
Disrespect for in-laws	1 (0.60)	1 (0.86)	0 (0.00)	1 (0.64)	0 (0.00)	0 (0.00)	3
Bad dream or omen	0 (0.00)	0 (0.00)	0 (0.00)	2 (1.28)	0 (0.00)	0 (0.00)	2
Conviction or incarceration	1 (0.60)	0 (0.00)	1 (0.86)	0 (0.00)	0 (0.00)	0 (0.00)	2
Repressiveness	0 (0.00)	1 (0.86)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	1
Exchange wife has too few children	1 (0.60)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	1
Other economic problems	2 (1.20)	3 (2.59)	4 (3.45)	9 (5.77)	6 (5.17)	1 (1.19)	25
Other in-law problems	5 (2.99)	3 (2.59)	2 (1.72)	9 (5.77)	0 (0.00)	1 (1.19)	20
Other personality problems	3 (1.80)	1 (0.86)	2 (1.72)	4 (2.56)	3 (2.59)	0 (0.00)	13
Other ritual problems	0 (0.00)	3 (2.59)	3 (2.59)	2 (1.28)	0 (0.00)	0 (0.00)	8
Other political problems	0 (0.00)	2 (1.72)	1 (0.86)	2 (1.28)	1 (0.86)	1 (1.19)	7
Total	167	116	116	156	116	84	

NOTE: A, Africa ($n = 26$); C, Circum-Mediterranean ($n = 22$); E, East Eurasia ($n = 30$); I, Insular Pacific ($n = 25$); N, North America ($n = 30$); S, South America ($n = 27$).

an adulterous transgression, "a husband in his rage may even beat his wife, or she, on discovering that her spouse has been led astray, may be so offended as to leave him" (Lumholtz 1902:92). Of the other, that of the Trobriand Islanders, Malinowski writes that "in her married life, the woman is supposed to remain faithful to her husband, but this rule is neither very strictly kept nor enforced" (1922:54); this is followed, though, by the report that should she commit adultery the husband has the

right to kill his wife (though he is more apt to "thrash" her) (1929:143).

The double standard comes up again and again in the ethnographic accounts (see also Broude and Greene 1976). In fact, several cross-cultural surveys have already shown strong positive associations between women's infidelity and frequency of divorce (e.g., Flinn 1981; Daly, Wilson, and Weghorst 1980; see also Gaulin and Schlagel 1980, Hartung 1985). It is repeatedly made clear

TABLE 3
Causes of Conjugal Dissolution by Sex

	Societies Reporting	Attribution				<i>p</i> ^a
		Husband	Wife	Both	Unspecified	
Infidelity						
Adultery	88	2	54	25	7	.0001
Lack of virginity	6	0	6	0	0	—
Polygyny (cospouse conflict)	25	25	0	0	0	.0001
Cruelty or maltreatment	54	46	0	5	3	.0001
Disobedience or disrespect	14	0	13	0	1	.0007
Repressiveness	1	1	0	0	0	—
Jealousy	6	1	0	4	1	—
Elopement with lover	38	3	24	11	0	.0001
Infertility						
Sterility	75	12	30	12	21	.0055
Sexual neglect	15	15	0	0	0	.0001
Refusal to have sex	12	0	12	0	0	.0005
Death of children	14	0	0	0	14	—
Old age	8	0	8	0	0	.0047
Absence of male children	4	0	0	0	4	—
Exchange wife has too few children	1	0	0	0	1	—
Personality						
Mutual consent	42	0	0	0	42	—
Displeasingness	51	18	16	17	0	—
Quarrelsomeness or talkativeness	10	0	8	2	0	.0008 (1:14)
Bad temper	10	1	7	1	1	
Other	13	5	7	1	0	—
Economics						
Laziness	32	7	13	9	3	—
Inadequate support	21	20	0	0	1	.0001
Inadequate housing	4	4	0	0	0	.0047 (8:0)
Inadequate food	6	5	0	1	0	
Inadequate clothing	4	4	0	0	0	.0005 (0:12)
Inadequate food preparation	6	0	6	0	0	
Inadequate service of spouse	7	0	7	0	0	—
Other	25	9	10	5	1	—
In-laws						
Conflicts with in-laws	25	11	10	3	1	—
Inadequate service of in-laws	7	4	2	1	0	.0209 (10:2)
Bridewealth or dowry disputes	6	6	0	0	0	
Disrespect for in-laws	3	1	1	1	0	—
Spouse favors kin	7	3	4	0	0	—
Other	20	9	2	0	9	.0077
Absence	24	18	2	4	0	.0003
Health	23	12	6	3	2	—
Ritual						
Witchcraft or sorcery	13	2	7	3	1	—
Broken taboo	6	2	2	2	0	—
Bad dream or omen	2	0	0	0	2	—
Other	8	0	2	3	3	—
Politics						
Theft	10	1	5	3	1	—
Conviction or incarceration	2	2	0	0	0	—
Other	7	0	0	0	7	—

^aValues refer to number of times a cause is ascribed to husbands vs. wives, calculated by chi-squared goodness-of-fit tests; only statistically significant values (<.05) are listed.

that a wife's adultery puts a marriage at risk much more often than a husband's. In, for instance, Truk, conjugal dissolution is reported to result from adultery on the part of a husband as well as a wife, but the difference in degree is stark. "If he wishes to terminate the marriage he [the husband] has only to spread rumors of her [the wife's] adultery, . . . pretend to believe them, and leave in a huff" (Gladwin and Sarason 1953:128). In contrast, the Trukese woman is reportedly required to catch her husband *in flagrante delicto* or to make the case that his adultery is interfering with the "reasonable requests" of her relatives before she can get a divorce.

Cruelty or maltreatment is the cause of conjugal dissolution third most often reported. Though in 5 societies it is ascribed to either a husband or a wife, in 46 it is ascribed exclusively to husbands, and in no case is it ascribed exclusively to wives. Although, on the face of it, cruelty could belong in a number of categories, there is consistent evidence in the ethnographies that it has often been prompted by a wife's adultery or by the perceived risk of it. One of the most dramatic cases is that of the Pomo husband, who mistreated his wife in order to promote blind faith. According to Loeb (1926:281), "If a wife were unfaithful the husband apparently did not divorce her, but took measures to correct her conduct or even killed her. One method of correcting a wife's conduct was to blind her and thus force her to stay at home" (see also cross-cultural evidence in Broude and Greene 1976). The many other examples include an anecdote about a Montagnais husband who suspected his wife of having given him a bastard; "after the birth, he treated his wife so badly that she left him" (Lips 1947:424). More generally, in Goajiro society, "a woman may free herself of her marital obligations when she commits adultery because her husband mistreats her and makes her home life impossible" (de Pineda 1950:159).

The reverse side of cruelty may be disobedience or disrespect. The best evidence that it might fit in the general category of infidelity is that in 5 of the 13 cases disobedience explicitly means a wife's going out without her husband's permission too often (Messing 1957:457 [Amhara]; Driver and Miles 1955:Law 141 [Babylonians]; Carcopino 1940:96 [Romans]; Scott 1910:60 [Burmese]; McIlwraith 1948:419 [Bellacoola]). Disobedience as a cause for divorce is ascribed exclusively to wives.

Two other frequently reported factors, cospouse conflict and elopement with a lover, might arguably be grouped with adultery as causes for divorce. Polygamy or cospouse conflict is the eighth most commonly reported cause of conjugal dissolution, ascribed to husbands in 25 societies and to wives in none. Polygyny in effect legitimizes what would be extramarital sex on the part of a husband. The result is that, to a wife, the most important "other women" are cowives rather than lovers. When a husband has added too many of them or neglected her to favor them, a woman may divorce him. On the other hand, elopement with a lover is the sixth most common cause for divorce, ascribed much more often to wives than to husbands. Polyandry being ex-

tremely rare (Murdock 1957, 1967; Murdock and Wilson 1972; Whyte 1978; Hartung 1982; Betzig 1986; Low 1988; White 1988), women involved in extramarital liaisons are more likely to leave their husbands than to take second spouses. In short, when a married woman prefers a lover, she divorces her husband to marry him; when a married man prefers a lover, he may simply add her to his collection of wives.

Other less often reported causes that might be grouped with adultery include lack of virginity (ascribed to wives in six societies and to husbands in none), jealousy (ascribed to both husbands and wives in four societies, to husbands in one society, and to an unspecified partner in another), and, perhaps least clearly, repressiveness (ascribed to husbands in a single society). Lack of virginity amounts to a concern over premarital adultery; jealousy is probably most commonly associated with sexual rivalry, and repressiveness on the part of a husband might, like concern over a wife's disobedience or disrespect, be tantamount to a concern that she might commit adultery if given a chance.

Why does adultery, more than anything else, compromise marriage? Partly, no doubt, because involvement with a lover potentially amounts to an alternative conjugal union. The neglected spouse risks losing everything she or he had hoped to gain by marrying, including social, economic, and reproductive resources. These resources may, of course, be diverted to a lover along a continuum from close to total commitment to the spouse to close to total commitment to the lover. The high frequency of adultery as a cause of conjugal dissolution makes equal sense, then, in terms of social, economic, and reproductive theories of marriage. The double standard does not. Though there is no reason that adultery on the part of a wife should compromise her social or economic contribution to a marriage any more than adultery on the part of the husband should compromise his, the reproductive consequences of even a single extramarital sexual encounter are likely to be vastly more important for a woman. If pregnancy is the result, she may spend nine months gestating, several years lactating, and many more years caring for her child. The man responsible for the pregnancy has the option of providing equal or even greater investment in the child, but he also has the option of providing nothing but sperm. Clearly, the injured wife has lost little, reproductively, if her husband exercises the latter option, while the injured husband is likely to lose much more.

Punishments for adultery, which the evidence suggests can prompt divorce on the grounds of cruelty, are unlikely to add much to the wife's contribution to the household economy. Neither are the preventive measures, such as claustration (Betzig 1986:84-85), that are commonly practiced in stratified societies among men of means (see Dickemann 1981). At the same time, if marriages were made in order to produce economically valuable children, it would seem to follow that pregnant brides would be valued more than virgins and that wives who bore bastards would be rewarded rather than punished. Indeed, the collectors of exceptionally large

harems, generally well-to-do men in stratified societies, might be expected to reward men who donated semen to their hundreds and sometimes thousands of wives in order to help them make children (Betzig 1986:84). That they do not is clearly more consistent with Darwinism than with this economic interpretation (pp. 55–56, 90–91).

Finally, that humans are polygynous may itself be better understood in reproductive than in social or in economic terms. If marriages were kept intact by the economic contributions of a spouse, polygyny might be expected to be more common where wives contributed more to subsistence and polyandry where the husband's contribution was greater (Betzig 1988b). In the same way, polygyny would seem to follow where women had more to offer a spouse in power, prestige, or other social resources and polyandry where men contributed more of any of these. If, on the other hand, men and women married for reproductive reasons, the human preference for polygyny would make sense. Probably more than any other single factor, polygyny contributes to the number of children a man can produce (e.g., Bateman 1948, Borgerhoff Mulder 1988, Clutton-Brock 1988). Given physiological constraints, polyandry can contribute much less to a woman's reproduction (see reviews in Williams 1966, Daly and Wilson 1983, Trivers 1985). It is predictable, in this light, that a married woman attracted to another man will be forced to leave her husband, while a married man attracted to another woman may simply add her to his harem—on which grounds a jealous wife may be driven to divorce him.

Infertility. Barrenness or infertility on the part of the wife, impotence or infertility on the part of the husband, and childlessness or infertility on the part of the couple are reported as cause for conjugal dissolution in 75 societies. This makes sterility a significantly more commonly reported cause than any other except adultery and cruelty ($\chi^2 = 4.571$, $p = .0325$, for a goodness-of-fit test comparing 75:63 and 51:63). This finding is consistent with recent evidence linking childlessness to divorce in traditional cultures (e.g., Ardener 1962, Cohen 1971; see also Essock-Vitale and McGuire 1988 and discussion below).

That marriages are made to make children has been said again and again. "Be fruitful and multiply" are Yahweh's first words to Adam and Eve (Genesis 1:28), and throughout Genesis faith is rewarded above all with fertility (e.g., Genesis 15:5, 17:2–3, 5, 6, 18:18; see review in Patai 1959:71–72). De Vaux (1961:41) reports that "in ancient Israel, to have many children was a coveted honour, and the wedding guests often expressed the wish that the couple would be blessed with a large family (Genesis 15:5, 24:60; Ruth 4:11–12; Psalms 127:3–5, 128:3; Proverbs 17:6). . . . Children are 'the crown of marriage' (Proverbs 17:6), and sons are 'olive plants around the table' (Psalms 128:3), 'a reward, like arrows in the hand of a hero; happy the man who has a full quiver of them' (Psalms 127:3–5)." Statements that children contribute to the stability of conjugal ties are common even where infertility is not reported as cause

for divorce (see Hanks 1963:15 [Siamese]; Oliver 1955:198 [Siuai]; Erdland 1914:89 [Marshallese]; Goodenough 1951:122 [Trukese]; Osgood 1958:203 [Ingalik]; Jenness 1922:160 [Copper Eskimo]; Bowers 1965:110 [Hidatsa]; Tooker 1964:125 [Huron]; Murphy 1954:85 [Mundurucu]; Gusinde 1937 [Yahgan]).

Very typically, "a couple with several children stays together till death. . . . But separations before many children are born are legion" (Henry 1941:23 [Aweikoma]). Divorce, however, has been only one of several solutions to the problem of failure to produce children. In some societies, including one for which no conjugal dissolution is sanctioned, trial marriages guarantee fertility. In the Andaman Islands, "the family is constructed by a permanent union between one man and one woman," but "a marriage is not regarded as fully consummated until the birth of a child" (Radcliffe-Brown 1922:70, 71). In other societies, trial marriage precedes dissoluble conjugal unions. Tiv marriages, made by an exchange of wives, are "in the nature of a trial" whose outcome is conjugal dissolution should no children, or too few children, be born to either union (East 1939:102). In village Japan, though divorce is occasionally brought about by barrenness, "divorces in rural areas are not usually matters for the courts. Marriages are frequently not entered on the family register (*koseki*) kept by the village office for some time after the wedding, often not until the birth of the first child" (Beardsley et al. 1959:390; see also Beaton 1948:18 [Fur]; Coon 1950:24 [Gheg]).

Polygyny has, however, undoubtedly been the most common alternative to conjugal dissolution when a couple fails to produce children. If a first wife proves sterile, a second is added to the harem. This is true both of societies in which sterility may lead to divorce (see Coon 1931:142 [Riffians]; Stirling 1965:210 [Turks]; Gayton 1948:105 [Yokuts]) and of several in which it does not (see Hulstaert 1938:355 [Nkundu], Birket-Smith and de Laguna 1938:133; see also, e.g., McCulloch 1952:33 [Mbundu]; Seligman and Seligman 1932:586 [Azande]; Grigson 1949:262 [Gond]; Opler and Singh 1958:470 [Uttar Pradesh]; Williams 1930:92 [Orokaiva]; Spier 1930:49 [Klamath]; Spier 1928:244 [Havasupai]). This point is brought home when in strictly monogamous societies infertility justifies unofficial polygyny. This is true among the Khalka Mongols and the Lepcha (Vreeland 1953:52; Morris 1938:263) in Asia and, in Europe, among the Lapps and the Irish. In County Clare, "in the old days, they say, a man might send a barren wife back to her parents, though Catholic law forbade him to marry again" (Arensberg and Kimball 1940:137–38). In one instance, a childless Irish farmer got a "country divorce," giving his wife, her dowry, and his farm away to his brother for £1,000. In the same way, for the Lapps jural divorce is nonexistent and breaches of conjugal relations are rare but invariably the result of childlessness (Pehrson 1957:68).

While polygyny is a frequent alternative to divorce for infertile couples, there appears to be no evidence that polyandry is ever an option. One uncommon way around infertility in a husband is what Murdock has cleverly

called "vicarious paternity" (Filipovitch 1958). A sterile husband gains paternity vicariously when his wife, by her husband's design or her own, gains sperm from another man. When ethnographers have noted such experiments, they have sometimes neglected to report on the outcomes. In Africa, both Mbundu and Kikuyu wives and husbands have the option of having intercourse with other partners in an effort to produce children (McCulloch 1952:33; Kenyatta 1953:184). In neither case, however, is the ethnographer explicit as to whether the husband will support the ensuing child. In both divorce may result from adultery on the part of a wife. In other societies, the reported outcomes of "vicarious paternity" experiments are surprising. Herskovits (1938:342) reports that childless Fon are often anxious to try to make zygotes by extramarital means. The unusual part of his account is that "gossips whisper of compounds where the head of the household is himself impotent. In such cases the man continues to marry and to have children. It is, once more, a matter of adjustment, this time both on the part of each wife, who solaces herself with such men as she fancies and can attract, and of the husband, who winks at the escapades of his wives, and accepts their children by other men as his own." This report is at odds with Duncan's (1847:219) account of his finding mutilated corpses on public display in the marketplace in Dahomey and being told that the victims had been guilty of adultery with one of the king's wives. Little (1951:160) reports for the Mende of West Africa that impotence does not "prevent a man from taking and having any number of wives. In these circumstances, however, they are usually allowed to co-habit with a relative of the husband, such as a nephew." This form of vicarious paternity is consistent with the evidence that polyandry, where it does occur, is almost always fraternal (e.g., Crook and Crook 1988; see also Alexander 1979).

Finally, among childless couples adoption is sometimes an alternative to conjugal dissolution. This is true in a few societies in this sample in which infertility does not sanction divorce (see Goodale 1971:149 [Tiwi]; Serpenti 1965:148 [Kimam]; Stair 1897:178 [Samoans]), as well as in others in which it does (see, e.g., Carroll 1970). Some accounts specify that close kin are preferred as adoptees (e.g., Hunt, Kidder, and Schneider 1949 [Yap]), and this is consistent with evidence from several societies showing that genetic relatedness is a good predictor of adoption (Silk 1980, Betzig 1988c).

Among the factors that might be grouped with sterility as cause for divorce, the most obvious are death of children (reported in 14 societies), absence of male children (reported in 4 societies), and production of too few children by an exchange wife (reported in 1 society). Three other causes may prompt divorce by less direct effects on infertility: sexual neglect (reported in 15 societies), refusal to have sex (reported in 12), and old age (reported in 8 and ascribed exclusively to wives). Sexual neglect and refusal to have sex clearly amount to the same thing and may have many underlying causes. An inevitable effect of both, however, must be failure to

produce children. Either that fact, the lack of sexual satisfaction in itself, or any of the underlying causes might be most important in terminating a union. A wife's old age is more clearly classifiable with sterility; obviously, infertility may be brought on by menopause. In most ethnographic accounts for which a spouse's advanced age is recorded as a cause of conjugal dissolution, the wife's replacement is a younger woman (Herskovits 1938:342 [Fon]; Ames 1953:134 [Wolof]; Smith 1954:284 [Hausa]; Grodek 1889:82 [Kazak]; Dobrizhoffer 1822:211 [Abipon]); Lévi-Strauss 1948:127 [Nambicuar]).

Divorce for infertility follows most directly from theories that marriages are made to produce children. The theory that stresses the economic value of children founders only to the extent that children are economic costs. From the large and growing literature on this subject it would appear that though in some highly fertile societies children can be economic assets, in others they clearly are not (see, e.g., Mueller 1976; Nag, White, and Peet 1978; Valsoff 1982; Bulatao and Lee 1983; Turke 1988a, b). The Darwinian theory that people marry to produce children as reproductive assets works whether children are economic or social benefits or costs. Social theories that marriage functions to enhance power or prestige and economic theories that marriages are sought for the economic contributions of a spouse are both consistent with the fact that sterility causes divorce, especially if they allow, as they often do, that marriage ties can be strengthened by the birth of children. Children themselves are often supposed to enhance prestige (e.g., Stephens 1963), and kin ties are often crucial in strengthening political alliances (e.g., Clignet 1970; cf. Fortes 1959; Leach 1957, 1961).

Polygyny as an alternative to divorcing a barren wife is consistent with theories attributing either economic or reproductive value to children. Theories that spouses are collected as social or economic assets raise the question why, where the husband is the infertile partner, polyandry is not an alternative to divorce. If women chose spouses, as men are thought to, for economic or social gain, it would seem logical that a sterile husband who was an economic or social asset would be supplemented rather than replaced.

On the face of it, the "vicarious paternity" and adoption alternatives to divorcing a sterile spouse appear to be inconsistent with Darwinism but consistent with the theory that marriages are made to produce economically valuable children. It happens, however, that both "vicarious paters" and adopters are often close genetic kin (see above and Silk 1980). This is consistent with the Darwinian theory of kin selection, which suggests that organisms may spread genes by helping to raise the young of close kin as well as their own (Hamilton 1964, following Fisher 1930 and Darwin 1859).

Personality. Marriages may be made for love, but love is seldom if ever the only motivation, and lack of it is not the only reason marriages are broken. Displeasingness is reported as cause for divorce in 51 societies. This makes it significantly less common than adultery or

sterility but more common than any other cause except elopement with a lover and mutual consent ($\chi^2 = 4.349$, $p = .037$, for a goodness-of-fit test comparing 51:41.5 and 32:41.5). Immediately following displeasingness is mutual consent, reported in 42 societies. Both of these explanations are vague, and there is ample indication that other factors are involved.

Displeasingness on the part of a husband or wife is very often tantamount to no cause at all. It is recorded, for example, for many Islamic societies in which religious law allows a husband to renounce his wife for any reason—or none (see, e.g., Gamble 1957:59). In as many cases, wives are free to repudiate their husbands. Statements such as "If a wife wants to leave her husband, any motive is good" (Lhote 1944:156 [Tuareg]), "If their wives displease them, it is sufficient, they are ordered to decamp" (Dobrizhoffer 1822:211 [Abipon]), and "Either partner may bring an end to a marriage at will. A man can simply walk out, and a woman can evict her husband" (Burling 1963:259 [Garol]) are very broadly recorded as displeasingness on the part of the unwanted husband or wife. In the same way, mutual consent, the two-sided equivalent of displeasingness, often amounts to the fact of separation rather than its cause. In many of these cases, there are clearly complicating causes, and the few available details suggest that these causes often have something to do with infidelity and infertility.

Sexual jealousy clearly is often at the bottom of marital quarrels. Certainly, this is the case in the quarrels among cowives discussed above. An association between incompatibility and infidelity may be made more or less explicit. When a Quiche woman commits adultery, her husband, in order to get rid of her, "must make her position in the house untenable. . . . The undesired wife is nagged, insulted, and starved; her husband scolds and abuses her; he is openly unfaithful. He may marry another woman or even outrage his wife's dignity by introducing a prostitute into the house" (Bunzel 1952:132). Among the Wolof of West Africa, quarrels followed a wife's sexual jealousy: "Men frequently justify divorce by references to women's disrespect, disobedience, or quarreling. These are often only the outer expression of the wife's jealousy and envy, for wives seem to find it especially difficult to share their husband's wealth and affection. Several instances were recorded in which the wife of a man left him shortly after he announced that he intended to marry again" (Ames 1953:133).

In other cases, infertility is clearly the culprit. Hopen (1958:109), for example, writes that for some Fulani couples, "frustration over childlessness causes violent arguments which precipitate divorce." Elwin (1949:70) notes that, in tribal India, "sterility is always a cause of quarrels and disagreements in the home. Husband and wife each accuse the other of being at fault. A former Sirdar or Sodma said, 'We went to each other for seven years till we were weary, and still there was no child; every time my wife's period began she abused me saying, "Are you a man? Haven't you any strength?" And I used to feel miserable and ashamed.'" Stirling (1965:212-13) is

concise: among the Turks, "village informants regard marital quarrels as normal, and usually solved by reconciliation. A man with a household full of children and no alternative woman will sue for peace quickly, by coming to fetch his wife back."

Other personality factors that might be grouped with displeasingness and mutual consent include quarrelsomeness or talkativeness (reported in 10 societies), bad temper (in 10 societies), and miscellaneous factors (in 13 societies). The last include a Mbundu wife's dishon-esty (McCulloch 1952:33), a Toda wife's being "a fool" (Rivers 1906:523), a Manchu wife's bad manners (Shirokogoroff 1924:91), a Manus husband's being insulting (Mead 1956:27-28), and an Alorese husband's insistence on copulating in the dorsoventral position (DuBois 1944:98).

It could be argued (see, e.g., Chester 1977, Thornton 1977) that personality conflicts are the essential causes underlying infidelity, infertility (especially lack of sexual interest), and many other causes of conjugal dissolution. It is very difficult, as it is wherever variables are correlated, to determine which came first. Personality conflicts are part and parcel of every marriage, but they are probably more likely to grow irreconcilable when other things go wrong—especially in the event of infidelity or infertility. Sterility, death of children, absence of male children, or wife's old age are unlikely to be brought on by a difference of opinion; and, though personality clashes may frequently underlie infidelity, they do not explain why wives should much more often be divorced on the grounds of adultery or elopement with a lover or husbands on the grounds of cruelty or polygyny.

Economics. Inadequate support is reported as cause for divorce in 21 societies and ascribed exclusively to husbands in all but one unspecified case. More specific economic complaints include providing insufficient food (in 6 societies, ascribed to husbands only in 5), inadequate housing (in 4 societies, ascribed exclusively to husbands), and inadequate clothing (in 4 societies, also ascribed exclusively to husbands). At least one of these four causes is mentioned for 29 societies. This figure is significantly lower than those reported for adultery, sterility, displeasingness, and cruelty ($\chi^2 = 6.05$, $p = .0139$ for a goodness-of-fit test comparing 29:40 with 51:40); it is significantly higher than that reported for sexual neglect or any cause reported less often ($\chi^2 = 4.455$, $p = .0348$, for a goodness-of-fit test comparing 29:22 and 15:22). Other factors related to economic failure include inadequate service of spouse (in 7 societies, ascribed exclusively to wives) and inadequate food preparation (in 6 societies, also ascribed exclusively to wives). "Laziness," reported for 32 societies, can also be interpreted as an economic failure. An interesting thing about these economic factors is that they are so clearly segregated according to sex. Husbands are divorced for failing to provide material means, wives for failing to process them.

Laziness might be viewed simply as a personality problem or, depending upon its more specific meaning,

assigned to one of several more general categories. A husband or wife might be lazy sexually, neglectful in child care, or evasive of responsibilities toward in-laws, political authorities, or religious idols. Because reluctance to work is its most general connotation and because some ethnographic evidence supports such an interpretation, however, it has been interpreted here as an economic problem. In many ethnographies, "laziness" is listed as a cause for conjugal dissolution without any elaboration. In four cases, however, the term used is "idleness" (Beidelman 1967:31 [Luguru]; Beaton 1948:21 [Fur]; Gomes 1911:69 [Iban]; Batchelor 1927:200 [Ainu]), in one it is "sloth" (Gayton 1948:105 [Yokuts]), and in two it is "indolence" (Hulbert 1905:358 [Koreans]; Swanton 1928:378 [Creek]). Better evidence that "laziness" is often economic is that in three cases ethnographers specify that divorce follows a partner's failure to work (Rivers 1906:525 [Toda]; Scott 1910:60 [Burmese]; Opler 1941:397 [Apache]) and in another three the "laziness" epithet is followed by something more specific, e.g., "The man who was lazy or an incompetent provider could also be driven out" (Dorsey and Murie 1940:101 [Pawnee]; see also Seligman and Seligman 1911:100 [Vedda]; Gusinde 1937:478 [Yahgan]). Finally, laziness appears to cause divorce more often in societies in which nonsupport is less often mentioned (see tables 1 and 2). It is a more common complaint in East Eurasia, the Pacific, and the Americas; providing inadequate housing, food, and clothing as causes of conjugal dissolution are more common in Africa.

Besides laziness, unwillingness to provide, and unwillingness to process what has been provided, a large number of miscellaneous factors can be related to economic motives for divorce. Some of these include a Wolof groom's having falsely represented himself as high-caste (Gamble 1957:59), a "monogamous" Roman husband's desire for a new wife with a bigger dowry (Carcopino 1946:98), a Burusho wife's inadequate rationing (Lorimer 1939:117), greediness on the part of a Toradja wife or husband (Adriani and Kruyt 1950:476), a Manus husband's or wife's being too stupid for trade (Mead 1956:61), a Trobriand husband's lost rank (Malinowski 1929:144), an Ifugao spouse's debts (Barton 1919:31), an Ainu wife's gathering insufficient fuel (Batchelor 1927:200), and a Bellacoola wife's inability to help at potlatches (McIlwraith 1949:418).

It has been suggested that theft, reported as a cause for conjugal dissolution in 10 cases, ought to be considered an economic motive as well (Douglas White, personal communication). This should be true to the extent that theft imposes on the spouse (or on his or her dependents) an economic cost. It seems likely, though circumstances are seldom made explicit, that husbands and wives are less prone to steal from one another than from others. If so, theft probably ought to be classified independently, and it has been so here.

Finally, it may be surprising that economic factors have been said to cause divorce so much less often than adultery and sterility, but in discussions of marriage and divorce emphasis on reproduction over production is not

uncommon. Lambrecht (1932-41:174), for instance, writes of the Philippines, "All Ifugaw put their pride in riches, want to show their wealth by means of sacrifices and feasts, gladly obey rich men, and think that rich people are really very happy. Nevertheless they want before all to have children, and we think that it is not an exaggeration to say that they would gladly give up all wealth, were there need, if this would be a means to obtain children." In the same vein, Opler (1941:412) says of the Apache, "Even if a woman is sweet and a good worker, a man could divorce her for sterility or for frigidity. If she is sterile, a woman might get on with her husband for a while, but he will soon divorce her." And Foster (1942:71, emphasis mine), speaking of the Popoluca, writes:

Is polygyny of economic advantage to the husband? In theory the answer is "yes." Women do most of the tasks of men, including working in the fields, and an extra hand is therefore of value. In practice one wife is apt to be lazy, particularly if she is younger than the others and a favorite, thereby constituting more of an economic drain than an asset. If a separate house is maintained for each wife, as is sometimes the case, added expense is incurred. . . . *Desire for numerous progeny and desire for variety in sexual relations without risk seem to be more important factors in polygyny than the desire for direct economic gain.*

If men valued wives primarily for their contributions to subsistence, it seems reasonable to expect that they would often divorce them for failure to make such contributions. But women are seldom divorced for economic reasons, and in all but one case the economic failure has more to do with grinding the grain (i.e., with her domestic labor contribution) than with bringing it in (i.e., with a direct material contribution to her husband's wealth). Husbands are divorced for economic reasons somewhat more often, but in 21 societies in which a man risks conjugal dissolution for these reasons the failure is specified as "nonsupport" and in another 8 societies as failure to provide adequate housing, food, or clothing. This is especially surprising given recent evidence that women in some societies, including some foraging societies, may contribute more than half of the calories to their families' diets (e.g., Lee and DeVore 1968). There is no question that a spouse who supports him- or herself will be easier to acquire and to retain than one who depends on a spouse's support (e.g., Betzig 1986:85). But if economics were all that mattered, nonsupport by a husband should be no more often cited as a cause for divorce than failure to provide by a wife. If, on the other hand, reproduction were paramount, then a wife's unparalleled contributions to child care in gestation and lactation, education, etc., could be compensated only by contributions her husband made in other ways (see, e.g., Lovejoy 1980, Lancaster and Lancaster 1983, and, for a review, Betzig 1988a). Wives may contribute subsistence and labor to a marriage; in fact, they may

provide more than their mates do of both. But a woman may be a reproductive asset to her husband even if she offers neither, while a husband is less likely to be a reproductive asset to his wife if he is an economic failure.

Social theories are not inconsistent with the sex bias in this set of evidence; neither do they explain it. There is no reason, for instance, to expect wives rather than husbands to be put up with as economic costs because they more often compensate as social assets.

In-laws. Many marriages are made by interested parents (e.g., Flinn and Low 1986), and a number of them seem to be broken up in the same way. Conflicts with in-laws are reported as causes of conjugal dissolution in 25 societies and equally often ascribed to wives and to husbands. Other, more specific in-law problems include inadequate service of in-laws (in 7 societies), bridewealth or dowry disputes (in 6), disrespect for in-laws (in 3), and miscellaneous complaints (in 20). At least one of these causes of conjugal dissolution is reported for 49 societies. In almost half of these cases, the problem is vaguely summed up as a "conflict." In other cases, ethnographers are more specific, attributing divorce to failures to provide bride service, bridewealth, or "respect." Miscellaneous causes include "incest," either between the unwitting bride and groom (e.g., Gluckman 1972:226 [Lozi]) or between the groom and one of his wife's close kin (e.g., Little 1951:160 [Mende]); the levirate, forcing a woman to leave her husband to marry a dead sister's husband (DuBois 1944:497 [Alorese]) or the sororate, forcing a man to replace his wife with her newly widowed sister (Gusinde 1937:413 [Yahgan]); and inability of the husband's and wife's kin to get along (e.g., Malinowski 1929:113 [Trobrianders]; Bogoras-Tan 1904-9:597 [Chukchee]).

That parents, siblings, and other kin are interested in each other's connubial fortunes does not call into question any theory of marriage and divorce. It is of course highly consistent with social theories of kinship as an organizing force in politics (e.g., Leach 1962, Stephens 1963, Clignet 1970), but it is not inconsistent with economic theories; many of these have stressed, and none have denied, the importance of kinship (e.g., Murdock 1949, Caldwell 1982). And that kin should share one another's concerns in reproductive matters is explicitly predicted by kin selection (Hamilton 1964), the Darwinian theory that individuals should have evolved to spread their own genes by helping kinsmen reproduce (see, for reviews, Gray 1985, Betzig 1988a).

Absence. As do elopement with a lover and personality conflicts, absence or desertion often amounts to conjugal dissolution rather than to its cause, so its frequency bears little on theories of marriage and divorce. Divorce reportedly follows absence or desertion by a husband only in 18 societies, by a wife only in 2, and by either husband or wife in 4. Evidence from other studies suggests that husbands in many societies go farther from home and stay away longer. This may be true for a number of reasons, among them the pursuit of polygyny and the greater risks to wives with dependent young (see,

e.g., Trivers 1972, Gaulin and Hoffmann 1988, Hewlett 1988).

Health. Poor health can amount to a failure to perform any conjugal function. For this reason its incidence as a cause for divorce—it is mentioned for 23 societies—has little to say about why people make marriages or end them.

Ritual. In 13 societies, a husband or wife is justified in leaving a spouse who turns out to be a sorcerer or witch. Other causes related to ritual include broken taboos (in 6 societies) and bad dreams or omens (in 2). The evidence suggests, however, that many ritual faux pas may have other causes.

In 6 of the 13 societies in which witchcraft is cause for divorce it is explicitly related to children's death, and in another it is thought to bring about a husband's impotence. Mair (1940:24) says of the Ganda, for example, "If a child dies, the possibility of sorcery is usually canvassed, and its mother, if she seriously suspects it, particularly if she has another child, may leave her husband." In the same way, Junod (1927:193) writes of the Thonga, "A husband is always grieved at the death of his child and a sad event like this often leads to dreadful results. He will begin to think his wife is a witch, and has eaten her own child by her magical powers. Such an accusation is almost sure to end in a divorce" (see also Kopytoff 1964:103 [Suku]; Little 1951:160 [Mende]; Oliver 1955:198 [Siaui]). And, among the Apache, "When a man can't get an erection, it is attributed to witchcraft. If it can't be cured, this might be the real reason back of a divorce" (Opler 1941:417).

In three of the six societies in which broken taboos may bring on a divorce, those taboos are explicitly related to other aspects of sex and reproduction. The broken taboo warranting divorce in Nyakyusa society is a menstrual taboo (Wilson 1957:132); for the Tanala it is a taboo against sex during gestation (Linton 1933:282), and a Tallensi husband divorced his wife for wearing "widow leaves," which were meant to signify her chastity after his death (Fortes 1949:385).

In one of the two cases in which conjugal dissolution is reported to follow a bad dream or omen, the ethnographer makes a connection to reproduction: "Dyak women, when they want to separate from their husbands and have taken a liking for another man, allege that they have dreamt that if they do not separate they will die in pregnancy" (Roth 1892:112). And finally, in at least three out of eight societies in which divorce is brought about by some other ritual problem, an essential intermediary variable may be infertility. On Manus a wife may divorce a husband for "death of children from the anger of the husband's ghosts" (Mead 1934:189); among Yukaghir "sterility is considered as a punishment of the spirits of the deceased relatives. . . . For this reason the father-in-law may send away his son-in-law, if the latter is sterile, and the husband may send away his barren wife" (Jochelson 1926:105); and among Ifugao, where divorce follows childlessness, death of the first child, or continued deaths of children, "supernatural be-

ings disapprove of the marriage" (Lambrecht 1932–41:180).

In other words, ritual is often supposed to cause infertility, and, especially when it does, witchcraft, broken taboos, and bad dreams are cause for divorce.

Politics. Theft is reported to end marriage in just a handful of societies (10). In 9 societies some other motive that might be construed as political, including a husband's conviction or incarceration (in 2 societies), is called cause for divorce. For only one society, the Rwala, are marriages reported to be broken to create new and better political alliances, and there only by chiefs (Musil 1928:233). In other cases, causes amount to competition among men for marriageable women (e.g., Chagnon and Bugos 1979, Chagnon 1988, Daly and Wilson 1988). There are two instances of wife stealing as a cause of conjugal dissolution (see Jochelson 1926:111 [Yukaghir]; Birket-Smith and de Laguna 1938:135–36 [Eyak]). In one society divorce is said to follow factional disputes (Maybury-Lewis 1967:93 [Akwe-Shavante]), in another to follow raids (Buck 1952:372 [Maori]), and in a third to follow a husband's departure for the front (Carcopino 1940:100 [Romans]). On Jaluit, in the Marshall Islands, chiefs are said to have had the right to dissolve the marriage of any subject in order to take away his wife: "Inasmuch as he has intercourse with all the girls and women, it is not difficult for him to make a choice. It does not matter to him that by taking married women he sends their husbands in search of other wives" (Erdland 1914:91).

The infrequency with which politics is reported as cause for divorce might contradict social theories that marriages are politically motivated. It seems likely that, along with economic, reproductive, and other social considerations, political power is sought wherever possible in marriage (e.g., Tylor 1889, Lévi-Strauss 1949, Leach 1961). That political considerations are usually primary in maintaining a marriage, however, seems unlikely.

CONJUGAL DISSOLUTION IN MODERN SOCIETIES

There are a few postindustrial societies in the standard cross-cultural sample, but these may not be enough to make a convincing case that some causes for divorce have not changed with the transition from traditional to modern. There is evidence, however, that infertility remains a strong correlate of divorce.

The relationship of children to marital stability in modern societies has been debated for decades (see, e.g., Thornton 1977). Increasingly sophisticated attempts have been made to determine whether divorcing couples have fewer children than *comparable* couples who stay together (e.g., Monahan 1955). Duration of marriage has been noted again and again as a possible confounder of this relationship; it has been found consistently to vary inversely with the probability of divorce. Studies controlling for duration of marriage have continued to show that couples with fewer children divorce more often (Jacobson 1959 [U.S.]; Day 1963 [Australia]; Chester

1977 [Europe]; Thornton 1977 [U.S.]; Cherlin 1977, 1981 [U.S.]; National Center for Health Statistics 1977 [U.S.]). However, measurement of duration of marriage and number of children presents problems. Children, for example, may be defined as "persons under 18 years living with the parents" or may include adult or nonresident children (e.g., Chester 1977). Interestingly, Cherlin (1977) found the presence of children under school age significantly correlated with lower probability of divorce. The possible inclusion of children unrelated to one spouse may constitute an additional problem, because the presence of stepchildren may increase the probability of divorce (Monahan 1955, Daly and Wilson 1988)—a phenomenon that may in part explain a higher rate of divorce among remarried individuals (e.g., Cherlin 1977; cf. Daly and Wilson 1985). Measures of duration of marriage, if calculated from the date of the divorce decree, may overestimate time of cohabitation; a better estimate may be time to separation (Chester 1972). Although median intervals from separation to divorce have been estimated to be as great as 3–5 years, they have also been estimated to be as little as .9–1.7 (Thornton 1977). Moreover, reproductive separation may occur among couples who remain married.

Although the importance of controlling for duration of marriage seems to have been generally acknowledged, the theoretical reason for doing so has often been left implicit. The assumption seems to be that long-term association in itself tightens the marital bond. However, the power of initial attraction in drawing people together is also a favorite subject (e.g., Rubin 1970), and some investigators have referred to the effects upon relationships of the "corrosion of time" (e.g., Blood and Wolfe 1960). Clearly, number of children born is dependent upon time. A relationship between frequency of divorce and duration of marriage can also be considered a predictable artifact of that between divorce and number of children born.

In the United States, when duration of marriage is controlled, couples with no children divorce more often than couples with one child, who divorce more often than couples with two children, who in turn divorce more often than couples with three or more children (e.g., Jacobson 1959). Table 4 presents data from 30 modern societies showing that divorce rates tend to decrease with number of dependent children.

The association between infertility and divorce, in modern as in traditional societies, is consistent with most theories of marriage. Again, social and economic theories can be consistent if they allow that marriage ties are strengthened by children; and the correlation between divorce and infertility follows directly from reproductive theories of marriage. The idea that people marry to produce economically valuable children fails more often in modern societies, where children are generally regarded as costly (see, e.g., review in Turke 1988c). The theory that people marry to produce children as reproductive assets works irrespective of their net economic benefit or cost—although no theory could

TABLE 4
Divorces (Percent) by Number of Dependent Children (1970)

	<i>n</i>	0	1	2	3	4	5	6	7+	Unknown
Egypt	68,810	68.45	12.86	6.57	4.27	3.14	4.72	(5+)	—	—
South Africa										
White	7,748	34.89	22.81	21.48	12.34	4.88	2.08	0.83	0.70	—
Black	753	28.82	18.73	19.92	12.35	9.43	5.18	2.52	3.06	—
United Kingdom	58,239	26.07	25.72	26.29	12.66	9.26	(4+)	—	—	—
Belgium	6,403	57.97	22.08	11.49	5.11	1.83	1.52	(5+)	—	—
Netherlands	10,317	34.33	25.25	21.89	9.75	4.31	1.81	0.68	0.83	1.14
Denmark	9,524	36.60	32.02	21.67	6.86	2.81	0.51	0.10	0.04	—
Norway	3,429	35.58	32.55	21.61	7.35	2.22	0.55	0.15	—	—
Sweden	13,174	37.96	32.23	21.88	6.06	1.39	0.41	0.05	0.02	—
Finland	6,044	29.75	34.73	21.54	8.42	3.44	1.54	0.30	0.28	—
Germany (Federal Republic)	76,520	36.28	33.74	19.02	6.70	4.26	(4+)	—	—	—
Poland	34,574	37.43	38.75	17.86	5.83	(3+)	—	—	—	0.13
Czechoslovakia	24,936	25.75	40.63	23.44	6.74	2.15	0.75	0.32	0.22	—
Switzerland	6,493	39.86	28.78	20.11	7.67	2.39	0.77	0.20	0.22	—
Austria	10,356	41.99	35.16	16.24	4.39	1.43	0.37	0.23	0.18	—
Hungary	22,814	46.92	38.00	11.76	2.33	0.67	0.21	0.06	0.05	—
Yugoslavia	20,473	49.57	34.41	12.53	2.47	0.94	(4+)	—	—	0.08
Romania	7,865	74.28	20.28	4.69	0.56	0.15	0.01	—	—	0.03
Bulgaria	9,905	43.53	37.05	15.97	2.49	0.50	0.29	0.08	0.08	—
Greece	3,492	49.03	18.67	9.51	2.23	0.60	0.17	0.06	0.09	19.64
Turkey	9,568	54.72	20.57	12.00	6.58	3.49	2.62	(5+)	—	0.01
Israel	2,442	53.07	24.98	13.39	4.22	1.76	0.78	0.49	0.57	0.74
Jordan	1,489	55.20	19.14	11.75	5.71	2.96	1.68	1.01	2.55	—
Japan	95,937	40.92	32.70	20.14	4.98	0.96	0.19	0.07	0.04	—
Australia	12,198	33.70	24.33	23.20	11.49	4.69	2.58	(5+)	—	—
New Zealand	3,136	23.88	20.70	24.94	15.18	9.09	3.38	1.40	1.43	—
United States	429,498	38.30	23.49	17.85	9.07	4.13	2.63	(5+)	—	4.54
Cuba	24,813	32.47	29.84	20.67	9.23	3.56	1.54	0.72	0.91	1.04
Dominican Republic	3,754	64.86	12.76	9.96	5.81	3.22	1.62	0.91	0.85	—
Ecuador	1,291	56.00	18.98	12.86	5.96	3.64	1.32	0.93	0.31	—

SOURCE: *United Nations Demographic Yearbook* (1977).

question that where children are “cheap” they will be easier to produce.

SUMMARY

For better or worse, Darwin was right: omnigamy has not flourished in human societies. People mate selectively and often exclusively, and they seem to divorce for consistent reasons. Many of these reasons fit a variety of theories of marriage, including social, economic, and reproductive ones. Poor health, absence or desertion, and elopement with a lover amount, in themselves, to conjugal dissolution. That they often lead to permanent separation calls no theory into question. Personality conflicts are often tantamount to no cause at all. Nor is the fact that in-law conflicts often cause conjugal dissolution a problem for any theory of marriage; no one doubts that parents and other affines have an interest in the conjugal relationships of their kin.

Political factors are seldom reported as cause for conjugal dissolution, and where they are they most often relate to crimes rather than to alliances. This suggests that marriage may not serve primarily political functions (e.g., Clignet 1970; cf. Stephens 1963). At the same

time, since a political advantage is likely to confer a social, economic, and reproductive edge, it seems reasonable to assume that marriages may be made and unmade for political reasons as long as those arrangements serve these other functions as well.

Ritual causes for conjugal dissolution are reported only slightly more often than political ones. In many cases, though, accounts make it clear that witchcraft, broken taboos, and bad omens or dreams are intimately linked to infertility.

Economic factors are less often reported as causes of conjugal dissolution than many might expect. The fact that men and women often divorce a lazy or otherwise costly spouse is most consistent with the long-standing theory that marriages serve an economic function (e.g., Murdock 1949, White, Burton, and Dow 1981, White 1988, White and Burton 1988). However, the specific theory that polygyny is motivated by men's desire to collect economically valuable wives fails to predict the finding that women are divorced almost exclusively for failure to do domestic work (such as preparing food or performing personal services for a spouse) and almost never for failing to provide their husbands adequate food or other material support. Husbands, on the other hand,

are often divorced for nonsupport, and this raises the question why women are not more often motivated to collect economically valuable husbands. It seems logical that, if economic or social motivations were paramount, polyandrous marriage should be prevalent where husbands contribute substantial power, prestige, or wealth; and of course it is not (Betzig 1988b).

That childlessness so often causes divorce is consistent with social, economic, and reproductive theories of marriage as long as children are in fact social, economic, and reproductive assets. In many societies children seem to be valuable economic and even social assets in many respects, but in others, including some with high fertility (see, e.g., Turke 1988a), the evidence suggests that they are not. In every society children are reproductive assets, and this fits well with widespread reports that infertility causes divorce and with a Darwinian theory that marriages are made and broken for the sake of reproduction.

Finally, that adultery is the single most common cause of divorce reported follows from every marriage theory, since it amounts to a diversion of all of a spouse's marriage assets. That almost every cause related to infidelity is ascribed with a strong sex bias is not, however, equally consistent with every hypothesis. If spouses were kept for their social or economic contributions, infidelity on the part of a wife would not compromise marriage any more than infidelity by a husband; and if children were valued for economic or even social reasons then, strictly speaking, unrelated children would be no less valuable than one's own. That there are no harsher penalties in human societies than those for adultery (e.g., Betzig 1982; 1986:chap. 4; Thornhill and Thornhill 1983) and that infidelity causes divorce more often than anything else are most consistent with a Darwinian theory that marriage should contribute to the reproduction of husbands and wives.

CONCLUSION

Clearly, social, economic, and reproductive theories of marriage all have validity, but these results suggest that they may constitute a nested hierarchy. A husband's or wife's social or economic contributions to marriage may be important only to the extent that they amount to reproductive contributions as well. It is important that none of these theories is non-Darwinian. It seems reasonable to expect, given what is known about human evolution, that social and economic assets have been essential to reproduction and that both have been scarce commodities as well (see, e.g., Betzig 1986; 1988a, d). Under these circumstances natural selection should have favored traits that made individuals willing and able to compete for them, along with traits that made them channel social or economic income into reproduction.

The "Darwinian" theory of marriage considered here (see, e.g., Dawkins 1986), given the assumption that environmental constraints in the present are enough like those of the evolutionary past, makes the simple predic-

tion that individuals will try to behave in adaptive ways (see, e.g., Betzig 1989). Other equally valid versions of Darwinism start with the assumption that present environmental conditions are radically unlike those of the evolutionary past (e.g., Symons 1979, 1987, 1988) and look for isolated adaptations that may or may not contribute to fitness under present conditions. Status seeking and wealth seeking seem two good candidates for such adaptations. What is interesting about this exercise is that neither of these considered in isolation is as useful as adaptationism in predicting patterns of divorce.

APPENDIX: SOURCES FOR TABLE 1

1. Nama, Schapera (1930:253)
2. !Kung, Marshall (1959:358-59)
3. Thonga, Junod (1927:190-99, 279-81, 439, 507-8)
4. Lozi, Gluckman (1950:25, 188; 1959:80-83; 1967:65-66, 122-23, 140-44, 147, 150-51, 172; 1972:145, 148, 244-46, 233)
5. Mbundu, Childs (1949:117-18), Hambly (1934:181-82), McCulloch (1952:33)
6. Suku, Kopytoff (1964:98-103, 115), Torday and Joyce (1906:45)
7. Bemba, Richards (1939:131, 190; 1956:159)
8. Nyakyusa, Wilson (1951:119; 1957:132)
9. Hadza, Woodburn (1968a:107, 109; 1968b:54)
10. Luguru, Beidelman (1967:31-32)
11. Kikuyu, Kenyatta (1953:182-85)
12. Ganda, Mair (1934:44, 96-99; 1940:7, 19-20, 24-25), Roscoe (1911:97)
13. Mbuti, Turnbull (1965:50-51, 274-75)
14. Nkundo, Hulstaert (1938:34, 38, 42, 67, 156, 249, 253-55, 271, 325, 353-56, 369)
15. Banen, Dugast (1954:162)
16. Tiv, Bohannan (1954:32), East (1939:60, 102-3, 154-55)
17. Ibo, Green (1964:164), Uchendu (1965:51-55)
18. Fon, Herskovits (1938:341-50)
19. Ashanti, Fortes (1950:275, 280), Rattray (1927:97-98; 1929:20, 196-97, 320)
20. Mende, Little (1951:159-61)
21. Wolof, Ames (1953:114, 132-34), Gamble (1957:59-60)
22. Bambara, Monteil (1924:224)
23. Tallensi, Fortes (1949:38, 85-87), Rattray (1932:350, 385, 387)
24. Songhai, Miner (1965:210, 213, 217)
25. Fulani, Stenning (1959:147, 173)
26. Hausa, Smith (1954:13, 25, 80, 108, 130-36, 158-59, 170, 200-201, 237, 264, 274, 284; 1955:59, 63-64)
28. Azande, Evans-Pritchard (1929:175-76; 1934:174, 1974:33)
29. Fur, Beaton (1948:18, 21)
30. Otoro, Nadel (1947:xiii, 125-27)
31. Shilluk, Seligman and Seligman (1932:67-68)
34. Masai, Hollis (1910:481)
35. Konso, Hallpike (1972:116)
36. Somali, Lewis (1955:138)

37. Amhara, Messing (1957:457–58, 648)
40. Teda, Cline (1950:44–46)
41. Tuareg, Lhote (1944:141, 155–56)
42. Riffians, Coon (1931:104, 142)
43. Egyptians, Ammar (1954:37, 65, 113)
44. Hebrews, de Vaux (1961:34–37, 41), Old Testament, Patai (1959:114, 117, 119–22)
45. Babylonians, Driver and Miles (1955:57, 155)
46. Rwala, Musil (1929:233–34, 238–39, 254)
47. Turks, Stirling (1965:109, 112, 198, 211–13, 216–18)
48. Gheg, Coon (1950:22–26), Durham (1928:79, 84, 213)
49. Romans, Carcopino (1940:95–100)
51. Irish, Arensberg (1937:91), Arensberg and Kimball (1940:137–38)
52. Lapps, Pehrson (1957:68)
53. Yurok, Jackson (1895:82)
55. Abkhaz, Luzbetak (1951:132–33)
57. Kurd, Masters (1953:272–75)
58. Basseri, Barth (1961:142)
59. Punjabi, Honigmann (1957:160)
60. Gond, Grigson (1949:262)
61. Toda, Rivers (1906:525–26)
62. Santal, Culshaw (1949:147–48)
63. Uttar Pradesh, Opler and Singh (1958:470)
64. Burusho, Lorimer (1935:340; 1939:117, 189–91)
65. Kazak, Grodekov (1889:50–52, 62, 79, 81–82, 87)
66. Khalka Mongols, Vreeland (1953:62, 73, 76)
67. Lolo, Lin (1947:69)
68. Lepcha, Gorer (1938:34, 138, 157–58, 175), Morris (1938:80–81, 217, 223, 263–64)
69. Garo, Burling (1963:258–60, 265)
70. Lakher, Parry (1932:343–47)
71. Burma, Scott (1910:60)
73. Vietnamese, Hickey (1964:99–100, 113–14)
74. Rhade, Donoghue et al. (1962:22, 27)
76. Siamese, Hanks (1963:15), Sharp and Hanks (1978:115)
77. Semang, Evans (1937:254), Schebesta (1954:235–39; 1973:99)
78. Nicobarese, Man (1932a:125–26)
80. Vedda, Bailey (1863:293), Seligman and Seligman (1911:100)
81. Tanala, Linton (1933:282–305)
83. Javanese, C. Geertz (1960:202), H. Geertz (1961:51, 69–75, 139–43)
84. Balinese, Belo (1936:26–28), Covarrubias (1938:122, 158–59), Geertz and Geertz (1975:56, 110)
85. Iban, Gomes (1911:69, 125–31), Howell (1908–10:13, 22–23), Roth (1892:112, 132–34)
86. Badjau, Nimmo (1972:23)
87. Toradja, Adriani and Kruyt (1950:140, 320, 365–66, 467–84, 500, 574)
89. Alorese, DuBois (1944:98–100, 111, 178, 460, 497)
90. Tiwi, Goodale (1962:445–56; 1971:56, 149)
91. Aranda, Spencer and Gillen (1927:409–10, 467)
92. Orokaiva, Williams (1930:25, 92–93, 138)
93. Kimam, Serpenti (1965:143–48, 180)
94. Kapauku, Pospisil (1958:35, 136, 173–75, 200, 241)
95. Kwoma, Whiting (1941:141–50)
96. Manus, Mead (1930:125; 1934:289–90; 1956:27–28, 61, 221)
97. New Ireland, Powdermaker (1933:262–66)
98. Trobrianders, Malinowski (1922:54; 1929:113, 143–47)
99. Siuai, Oliver (1955:198–200)
100. Tikopia, Firth (1936:37)
104. Maori, Best (1924:474, 476), Buck (1952:372)
105. Marquesans, Handy (1923:100), Porter (1823:113)
106. Samoans, Stair (1897:178), Turner (1884:97)
108. Marshalllese, Erdland (1914:85–91), Krämer and Nevermann (1938:261–65)
109. Trukese, Gladwin and Sarason (1953:122–29, 287), Goodenough (1951:21, 36, 122–26)
110. Yapese, Hunt, Kidder, and Schneider (1949:68, 91–96), Müller (1917:386), Schneider (1955:211–15)
111. Palauans, Barnett (1949:132–33)
112. Ifugao, Barton (1919:24–33), Lambrecht (1932–41:174–82, 198)
114. Chinese, Fei (1946:49)
115. Manchu, Shirokogoroff (1924:91)
116. Koreans, Hulbert (1902:1; 1906:368–69), Osgood (1951:103–4, 113, 147)
117. Japanese, Beardsley et al. (1959:330–34, 390–91)
118. Ainu, Batchelor (1927:200), Munro (1963:145)
119. Gilyak, Hawes (1903:263), Seeland (1882:29–30)
120. Yukaghir, Jochelson (1926:92, 105–11)
121. Chukchee, Bogoras-Tan (1904–9:596–97, 605)
122. Ingalik, Osgood (1958:203)
123. Aleut, Veniaminov (1840:60, 68–69, 77–78)
124. Copper Eskimo, Jenness (1922:160–61)
125. Montagnais, Lips (1947:423–24)
126. Micmac, Denys (1908:404, 410), Le Clercq (1910:147, 262)
129. Kaska, Honigmann (1949:194; 1954:135)
130. Eyak, Birket-Smith and de Laguna (1938:132–37, 161)
131. Haida, Murdock (1934:252)
132. Bellacoola, McIlwraith (1948:144, 402, 415–28)
133. Twana, Elmendorf (1960:359–61)
134. Yurok, Kroeber (1925:30–31)
135. Pomo, Gifford (1926:234), Loeb (1926:281–83)
136. Yokuts, Gayton (1948:105–6, 168)
137. Paiute, Whiting (1950:101–2)
138. Klamath, Spier (1930:43–50)
140. Gros Ventre, Flannery (1953:182–83, 189)
141. Hidatsa, Bowers (1965:110–11, 121–22, 142, 151)
142. Pawnee, Dorsey and Murie (1940:101)
143. Omaha, Dorsey (1882:262, 268), Fletcher and LaFlesche (1906:326)
144. Huron, Tooker (1964:122–25)
145. Creek, Swanton (1928:377–78)
146. Natchez, Swanton (1911:95–97)
147. Comanche, Hoebel (1940:74)
148. Apache, Opler (1941:78, 180, 260, 397–412)

149. Zuni, Smith and Roberts (1954:98–103)
 150. Havasupai, Spier (1928:222–25)
 151. Papago, Lumholtz (1902:349), Underhill (1939:185)
 152. Huichol, Lumholtz (1902:92–93)
 153. Aztec, Vaillant (1941:112)
 154. Popoluca, Foster (1942:70–71)
 155. Quiche, Bunzel (1952:129–32)
 156. Miskito, Conzemius (1932:150)
 157. Bribri, Stone (1949:22; 1962:29)
 158. Cuna, Nordenskiöld (1938:31–34), Stout (1947:27)
 159. Goajiro, Bolinder (1957:95), de Pineda (1950:158–60)
 160. Haitians, Herskovits (1937:117)
 161. Callinago, Breton and La Paix (1929:13), Taylor (1946:187)
 163. Yanomamö, Chagnon (1967:4; 1968:69, 83)
 164. Carib, Gillin (1936:79)
 165. Saramacca, Herskovits and Herskovits (1934:298–99), Kahn (1931:122–25)
 166. Mundurucu, Murphy (1954:43; 1960:85)
 167. Cubeo, Goldman (1963:127, 130, 166)
 169. Jivaro, Karstén (1935:223)
 170. Amahuaca, Huxley and Capa (1964)
 172. Aymara, Tschopik (1946:545–46)
 173. Siriono, Holmberg (1950:73–74, 83)
 174. Nambicuara, Lévi-Strauss (1948:127)
 175. Trumai, Murphy and Quain (1955:48, 89)
 176. Timbira, Nimuendajú (1945:124–31)
 177. Tupinamba, Thevet (1878:215)
 178. Botocudo, Keane (1884:206)
 179. Shavante, Maybury-Lewis (1967:93–94)
 180. Aweikoma, Henry (1941:24–26, 32, 41)
 182. Lengua, Grubb (1914:214)
 183. Abipon, Dobrizhoffer (1822:211)
 184. Mapuche, Faron (1961:133, 147, 180–81), Hilger (1957:138, 331), Titiev (1951:102)
 186. Yaghan, Gusinde (1937:409, 413, 442–43, 471–80), Lothrop (1928:163)
- ARENSBERG, C. M., AND S. T. KIMBALL. 1940. *Family and community in Ireland*. Cambridge: Harvard University Press.
 BAILEY, J. 1863. *An account of the wild tribes of the Veddahs of Ceylon*. London: Ethnological Society.
 BARNETT, H. G. 1949. *Palauan society*. Eugene: University of Oregon Press.
 BARRETT, S. A. 1925. *The Cayapa Indians of Ecuador*. New York: Museum of the American Indian.
 BARRY, H., L. JOSEPHSON, E. LAUER, AND C. MARSHALL. 1976. Traits inculcated in childhood: Cross-cultural codes 5. *Ethnology* 15:83–114.
 BARRY, H., AND L. M. PAXSON. 1971. Infancy and early childhood: Cross-cultural codes 2. *Ethnology* 10:466–508.
 BARTH, FREDERIK. 1961. *Nomads of South Persia*. London: Allen and Unwin.
 BARTON, R. F. 1919. *Ifugao law*. Berkeley: University of California Press.
 BATCHELOR, J. 1927. *Ainu life and lore*. Tokyo: Kyobunkuan.
 BATEMAN, A. J. 1948. Intrasexual selection in *Drosophila*. *Heredity* 2:349–68.
 BATESON, PATRICK. 1983. *Mate choice*. Cambridge: Cambridge University Press.
 BEARDSLEY, R. K., ET AL. 1959. *Village Japan*. Chicago: University of Chicago Press.
 BEATON, A. C. 1948. The Fur. *Sudan Notes and Records* 29:1–39.
 BEIDELMAN, T. O. 1967. *The matrilineal peoples of eastern Tanzania*. London: International African Institute.
 BELO, I. 1936. Study of a Balinese family. *American Anthropologist* 38:12–31.
 BEST, E. 1924. *The Maori*. Wellington: H. H. Tombs.
 BETZIG, LAURA L. 1982. Despotism and differential reproduction: A cross-cultural correlation of conflict asymmetry, hierarchy, and degree of polygyny. *Ethology and Sociobiology* 3:209–21.
 ———. 1986. *Despotism and differential reproduction: A Darwinian view of history*. Hawthorne, N.Y.: Aldine.
 ———. 1988a. "Mating and parenting in Darwinian perspective," in *Human reproductive behaviour: A Darwinian perspective*. Edited by Laura Betzig, Monique Borgerhoff Mulder, and Paul Turke, pp. 3–20. Cambridge: Cambridge University Press.
 ———. 1988b. Comment on: Rethinking polygyny: Co-wives, codes, and cultural systems, by Douglas R. White. *CURRENT ANTHROPOLOGY* 29:559.
 ———. 1988c. Adoption by rank on Ifaluk. *American Anthropologist* 90:111–19.
 ———. 1988d. "Redistribution: Equity or exploitation?" in *Human reproductive behaviour: A Darwinian perspective*. Edited by Laura Betzig, Monique Borgerhoff Mulder, and Paul Turke. Cambridge: Cambridge University Press.
 ———. 1989. Rethinking human ethology: A response to some recent critiques. *Ethology and Sociobiology* 10.
 BIRKET-SMITH, K., AND F. DE LAGUNA. 1938. *The Eyak Indians*. Copenhagen: Levin and Munksgaard.
 BLOOD, R., AND D. WOLFE. 1960. *Husbands and wives*. New York: Free Press.
 BOGORAS-TAN, V. 1904–9. *The Chukchee*. Leiden: Brill.
 BOHANNAN, PAUL. 1954. *Tiv farm and settlement*. London: Her Majesty's Stationery Office.
 BOLINDER, G. 1957. *Indians on horseback*. London: Dennis Dobson.
 BORGERHOFF MULDER, MONIQUE. 1988. "Reproductive success in three Kipsigis cohorts," in *Reproductive success*. Edited by Timothy Clutton-Brock. Chicago: University of Chicago Press.
 BOWERS, A. W. 1965. *Hidatsa social and ceremonial organization*. Washington, D.C.: Government Printing Office.
 BRETON, R., AND A. LA PAIX. 1929. "An account of the island of Guadeloupe," in *Les Caraïbes, La Guadeloupe, 1635–1656*. Edited by J. Rennard. Paris: Librairie Générale et Internationale.
 BROUDE, G. J., AND S. J. GREENE. 1976. Cross-cultural codes on twenty sexual attitudes and practices. *Ethnology* 15:409–29.
 BUCK, P. 1952. *The coming of the Maori*. Wellington: Whitcombe and Tombs.
 BULATAO, R., AND R. LEE. 1983. *Determinants of fertility in developing countries*. New York: Academic Press.

References Cited

- ADRIANI, N., AND A. KRUYT. 1950. 2d edition. *Bare'e-speaking Toradja of Central Celebes*. Leiden: Koninklijke Nederlandse Akademie.
 ALEXANDER, RICHARD D. 1979. *Darwinism and human affairs*. Seattle: University of Washington Press.
 ———. 1987. *The biology of moral systems*. Hawthorne, N.Y.: Aldine.
 ALEXANDER, RICHARD D., AND KATHERINE M. NOONAN. 1979. "Concealment of ovulation, parental care, and human social evolution," in *Evolutionary biology and human social behavior: An anthropological perspective*. Edited by Napoleon Chagnon and William Irons. North Scituate, Mass.: Duxbury Press.
 AMES, D. 1953. Plural marriage among the Wolof in the Gambia. Ph.D. diss., Northwestern University, Evanston, Ill.
 AMMAR, H. 1954. *Growing up in an Egyptian village*. London: Routledge and Kegan Paul.
 ARDENER, E. 1962. *Divorce and fertility: An African study*. London: Oxford University Press.
 ARENSBERG, C. M. 1937. *The Irish countryman: An anthropological study*. London: Macmillan.

- BUNZEL, R. 1952. *Chichicastenango*. New York: J. J. Augustin.
- BURLING, ROBBINS. 1963. *Rengsanggri: Family and kinship in a Garo village*. Philadelphia: University of Pennsylvania Press.
- CAIN, MEAD. 1981. Risk and insurance: Perspective on fertility and agrarian change in India and Bangladesh. *Population and Development Review* 2:321–66.
- CALDWELL, J. C. 1976. Toward a restatement of demographic transition theory. *Population and Development Review* 4:553–57.
- . 1982. *The theory of fertility decline*. New York: Academic Press.
- CARCOPINO, JEROME. 1940. *Daily life in ancient Rome*. New Haven: Yale University Press.
- CARROLL, VERNON. 1970. *Adoption in eastern Oceania*. Honolulu: University of Hawaii Press.
- CERULLI, E. 1956. *People of southwest Ethiopia and its borderland*. London: International African Institute.
- CHAGNON, NAPOLEON A. 1967. Yanomamö warfare, social organization, and marriage alliance. Ph.D. diss., University of Michigan, Ann Arbor, Mich.
- . 1968. *Yanomamö: The fierce people*. New York: Holt, Rinehart and Winston.
- . 1988. Life histories, blood revenge, and warfare in a tribal population. *Science* 239:985–92.
- CHAGNON, N. A., AND P. BUGOS. 1979. "Kin selection and conflict: An analysis of a Yanomamo ax fight," in *Evolutionary biology and human social behavior: An anthropological perspective*. Edited by N. A. Chagnon and W. Irons, pp. 213–37. North Scituate, Mass.: Duxbury Press.
- CHERLIN, ANDREW. 1977. The effect of children on marital dissolution. *Demography* 14:265–72.
- . 1981. *American marriage and divorce*. Cambridge: Harvard University Press.
- CHESTER, R. 1972. Is there a relationship between childlessness and marriage breakdown? *Journal of Biosocial Science* 4:443–54.
- . 1977. *Divorce in Europe*. Publications of the Netherlands Interuniversity Institute and the Population and Family Center 3.
- CHILDS, G. M. 1949. *Umbundu kinship and character*. London: Oxford University Press.
- CLIGNET, R. 1970. *Many wives, many powers*. Evanston: Northwestern University Press.
- CLINE, W. 1950. The Teda of Tibesti, Borku, and Kawai. *General Series in Anthropology* 12:1–52.
- CLUTTON-BROCK, TIMOTHY H. Editor. 1988. *Reproductive success*. Chicago: University of Chicago Press.
- COBO, B. 1893. *History of the New World*. Vol. 4. Edited by Don Marcos Jimenez de Espada. Seville: Sociedad de Bibliófilos Andaluces.
- COHEN, RONALD. 1971. *Dominance and defiance: A study of marital instability in an Islamic African society*. Washington, D. C.: American Anthropological Association.
- CONZEMIUS, E. 1932. *Ethnographical survey of the Miskito and Sumo Indians of Honduras and Nicaragua*. Bureau of American Ethnology Bulletin 106.
- COON, CARLETON. 1931. *The tribes of the Rif*. (Harvard African Studies 9.) Cambridge: Peabody Museum.
- . 1950. *The mountain of giants*. Papers of the Peabody Museum of American Archaeology and Ethnology 23.
- COVARRUBIAS, M. 1938. *Island of Bali*. New York: Knopf.
- CROOK, JOHN, AND STAMATI CROOK. 1988. "Tibetan polyandry: Problems of adaptation and fitness," in *Human reproductive behaviour: A Darwinian perspective*. Edited by L. Betzig, M. Borgerhoff Mulder, and P. Turke, pp. 97–114. Cambridge: Cambridge University Press.
- CULSHAW, W. J. 1949. *Tribal heritage: A study of the Santals*. London: Lutterworth Press.
- DALY, MARTIN, AND MARGO WILSON. 1983. *Sex, evolution, and behavior*. Boston: Willard Grant.
- . 1985. Child abuse and other risks of not living with both parents. *Ethnology and Sociobiology* 6:197–210.
- . 1988. *Homicide*. Hawthorne, N.Y.: Aldine.
- DALY, MARTIN, MARGO WILSON, AND SUZANNE WEGHORST. 1982. Male sexual jealousy. *Ethology and Sociobiology* 3:11–27.
- DARWIN, CHARLES. 1859. *On the origin of species*. London: John Murray.
- . 1871. *The descent of man and selection in relation to sex*. New York: Random House.
- DAWKINS, RICHARD. 1986. *The blind watchmaker*. New York: Norton.
- DAY, L. H. 1963. Divorce in Australia. *Australian Quarterly* 35:57–66.
- DENYS, N. 1908. *The description and natural history of the coasts of North America*. Toronto: Champlain Society.
- DE PINEDA, R. 1950. *Aspects of magic in La Guajira*. Pittsburgh: HRAF Press.
- DE VAUX, R. 1961. *Ancient Israel*. London: Darton, Longman, and Todd.
- DICKEMANN, M. 1981. "Paternal confidence and dowry competition: A biocultural analysis of purdah," in *Natural selection and human social behavior*. Edited by Richard D. Alexander and Donald W. Tinkle, pp. 417–38. New York: Chiron Press.
- DOBRIZHOFER, M. 1822. *An account of the Abipones*. Vol. 2. London: John Murray.
- DONOGHUE, J., ET AL. 1962. People in the Middle. MS, Michigan State University, East Lansing, Mich.
- DORSEY, J. 1882. *Omaha sociology*. Washington, D.C.: Smithsonian Institution.
- DORSEY, G. A., AND J. R. MURIE. 1940. *Notes on Skidi Pawnee sorcery*. Chicago: Field Museum.
- DOW, MALCOLM. 1987. Subsample replication in cross-cultural surveys. *American Anthropologist* 89:125–33.
- DRIVER, G. R., AND J. C. MILES. 1955. *The Babylonian laws*. Oxford: Clarendon Press.
- DUBOIS, CORA. 1944. *The people of Alor*. Cambridge: Harvard University Press.
- DUGAST, I. 1954. "Banen, Bafia, and Balom," in *Ethnographic survey of Africa*, vol. 9, *Peoples of the Central Cameroons*. London: International African Institute.
- DUNCAN, J. 1847. *Travels in western Africa in 1845 and 1846, comprising a journey from Wayday through the kingdom of Dahomey to Adfoodin*. London: Richard Bentley.
- DURHAM, M. E. 1928. *Some tribal origins, laws, and customs of the Balkans*. London: Allen and Unwin.
- EAST, R. 1939. *Akiga's story: The Tiv tribe as seen by one of its members*. London: Oxford University Press.
- ELMENDORF, W. W. 1960. *The structure of Twana culture*. Pullman: Washington State University Press.
- ELWIN, V. 1949. *The Muria and their Ghotul*. Bombay: Oxford University Press.
- EMBER, M., AND C. EMBER. 1983. *Marriage, family, and kinship*. Pittsburgh: HRAF Press.
- ENGELS, FREDERICK. 1884. *The origin of the family, private property, and the state*. New York: International Publishers.
- ERDLAND, P. A. 1914. *Die Marshall-Insulaner*. Munster i.W.: Aschendorffsche Verlagsbuchhandlung.
- ESSOCK-VITALE, SUSAN M., AND MICHAEL T. MCGUIRE. 1988. "What 70 million years hath wrought: Sexual histories and reproductive success of a random sample of American women," in *Human reproductive behaviour: A Darwinian perspective*. Edited by Laura Betzig, Monique Borgerhoff Mulder, and Paul Turke, pp. 221–36. Cambridge: Cambridge University Press.
- EVANS, IVOR H. N. 1937. *The Negritos of Malaya*. Cambridge: Cambridge University Press.
- EVANS-PRITCHARD, E. E. 1929. Witchcraft (*mansu*) among the Azande. *Sudan Notes and Records* 12:163–249.
- . 1934. Social character of bridewealth, with special reference to the Azande. *Man* 24:172–75.
- . 1974. *Man and woman among the Azande*. London: Faber and Faber.
- FARON, L. C. 1961. *Mapuche social structure*. Urbana: University of Illinois Press.
- FEI, H. 1946. *Peasant life in China*. New York: Oxford University Press.

- FILIPOVITCH, M. J. 1958. Vicarious paternity among the Serbs and Croats. *Southwestern Journal of Anthropology* 14:156-67.
- FIRTH, RAYMOND B. 1936. *We, the Tikopia*. London: Allen and Unwin.
- FISHER, RONALD. 1930. *The genetical theory of natural selection*. New York: Dover.
- FLANNERY, R. 1953. *The Gros Ventres of Montana*. Washington, D. C.: Catholic University of America.
- FLETCHER, A. C., AND F. LA FLESCHE. 1906. *The Omaha tribe*. Bureau of American Ethnology Bulletin 27.
- FLINN, MARK V. 1981. "Uterine versus agnatic kinship variability and associated cousin marriage preferences: An evolutionary biological analysis," in *Natural selection and human social behavior*. Edited by Richard Alexander and Donald Tinkle, pp. 439-75. New York: Chiron.
- FLINN, MARK V., AND BOBBI S. LOW. 1986. "Resource distribution, social competition, and mating patterns in human societies," in *Ecological aspects of social evolution*. Edited by Daniel Rubenstein and Richard Wrangham. Princeton: Princeton University Press.
- FORTES, MEYER. 1949. *The web of kinship among the Tallensi*. London: Oxford University Press.
- . 1950. "Kinship and marriage in Ashanti," in *African systems of kinship and marriage*. Edited by A. R. Radcliffe-Brown and D. Forde. London: Oxford University Press.
- . 1959. Descent, filiation, and affinity: A rejoinder to Dr. Leach. *Man* 59:193-97, 206-12.
- FOSTER, G. M. 1942. *A primitive Mexican economy*. New York: J. J. Augustin.
- GAMBLE, D. P. 1957. *The Wolof of Senegambia*. London: International African Institute.
- GAULIN, STEVEN J. C., AND HAROLD A. HOFFMANN. 1988. "Evolution and development of sex differences in spatial ability," in *Human reproductive behaviour: A Darwinian perspective*. Edited by Laura Betzig, Monique Borgerhoff Mulder, and Paul Turke. Cambridge: Cambridge University Press.
- GAULIN, STEVEN J. C., AND ALICE SCHLAGEL. 1980. Paternal confidence and parental investment: A cross-cultural test of a sociobiological hypothesis. *Ethology and Sociobiology* 1:301-9.
- GAYTON, ANNA. 1948. *Yokuts and Western Mono ethnography*. Berkeley: University of California Press.
- GEERTZ, CLIFFORD. 1960. *The religion of Java*. Glencoe: Free Press.
- GEERTZ, H. 1961. *The Javanese family*. Glencoe: Free Press.
- GEERTZ, H., AND CLIFFORD GEERTZ. 1975. *Kinship in Bali*. Chicago: University of Chicago Press.
- GIFFORD, E. W. 1926. *Clear Lake Pomo society*. Berkeley: University of California Press.
- GILLIN, J. 1936. *The Barama River Caribs of British Guiana*. Papers of the Peabody Museum of American Archaeology and Ethnology 14.
- GLADWIN, THOMAS, AND S. B. SARASON. 1953. *Truk: Man in paradise*. New York: Wenner-Gren Foundation for Anthropological Research.
- GLUCKMAN, MAX. 1950. "Kinship and marriage among the Lozi," in *African systems of kinship and marriage*. Edited by A. R. Radcliffe-Brown and D. Forde. London: Oxford University Press.
- . 1959. "The Lozi of Barotseland in northwestern Rhodesia," in *Seven tribes of British Central Africa*. Edited by E. Colson and M. Gluckman. Manchester: Manchester University Press.
- . 1967. *The judicial process among the Barotse of Northern Rhodesia*. Manchester: Manchester University Press.
- . 1972. *The ideas of Barotse jurisprudence*. Manchester: Manchester University Press.
- GOLDMAN, I. 1963. *The Cubeo*. Illinois Studies in Anthropology 2.
- GOODALE, JANE. 1962. Tiwi. *Ethnology* 1:452-66.
- . 1971. *Tiwi wives*. Seattle: University of Washington Press.
- GOODENOUGH, WARD H. 1951. *Property, kin, and community on Truk*. New Haven: Yale University Press.
- GOODY, JACK. 1976. *Production and reproduction*. Cambridge: Cambridge University Press.
- GOMES, E. H. 1911. *Seventeen years among the Sea Dyaks of Borneo*. London: Seeley.
- GORER, G. 1938. *Himalayan village*. London: Michael Joseph.
- GRAY, J. PATRICK. 1985. *Primate sociobiology*. Pittsburgh: HRAF Press.
- GREEN, M. M. 1964. *Igbo village affairs*. London: Frank Cass.
- GRIGSON, W. 1949. *The Maria Gonds of Bastar*. London: Oxford University Press.
- GRODEKOV, N. I. 1889. *The Kazakhs and Kirgiz of the Syr-Darya region*. Tashkent: S. I. Lakhtin.
- GRUBB, W. B. 1914. *An unknown people in an unknown land*. London: Seeley.
- GUSINDE, M. 1937. *The Yaghan: The life and thought of the water nomads of Cape Horn*. Mödling bei Wien: Anthropos.
- HALLPIKE, C. R. 1972. *The Konso of Ethiopia*. Oxford: Clarendon Press.
- HAMBLY, W. D. 1934. *The Ovimbundu of Angola*. Field Museum of Natural History Anthropological Series 21.
- HAMILTON, WILLIAM D. 1964. The genetical evolution of social behavior. *Journal of Theoretical Biology* 7:1-52.
- HANDY, E. 1923. *The native culture in the Marquesans*. Bernice P. Bishop Museum Bulletin 9.
- HANKS, J. R. 1963. *Maternity and its rituals in Bang Chan*. Ithaca: Cornell University Press.
- HARTUNG, JOHN. 1976. On natural selection and the inheritance of wealth. *CURRENT ANTHROPOLOGY* 17:607-22.
- . 1982. Polygyny and the inheritance of wealth. *CURRENT ANTHROPOLOGY* 23:1-12.
- . 1985. Matrilineal inheritance: New theory and analysis. *The Behavioral and Brain Sciences* 8:661-88.
- HAWES, C. H. 1903. *In the uttermost East*. London: Harper.
- HEATH, D. B. 1958. Sexual division of labor and cross-cultural research. *Social Forces* 37:77-79.
- HENRY, JULES. 1941. *Jungle people*. Richmond: William Byrd.
- HERSKOVITS, MELVILLE J. 1937. *Life in a Haitian valley*. New York: Knopf.
- . 1938. *Dahomey: An ancient west African kingdom*. New York: J. J. Augustin.
- HERSKOVITS, MELVILLE, AND F. HERSKOVITS. 1934. *Rebel dynasty*. New York: McGraw-Hill.
- HEWLETT, BARRY S. 1988. "Sexual selection and paternal investment among Aka pygmies," in *Human reproductive behaviour: A Darwinian perspective*. Edited by Laura Betzig, Monique Borgerhoff Mulder, and Paul Turke. Cambridge: Cambridge University Press.
- HICKEY, G. C. 1964. *Village in Vietnam*. New Haven: Yale University Press.
- HILGER, M. I. 1957. *Araucanian child life and its cultural background*. Washington, D.C.: Smithsonian Institution.
- HOEBEL, E. ADAMSON. 1940. *The political organization and lawways of the Comanche Indians*. Menasha: American Anthropological Association.
- HOLLIS, A. C. 1910. A note on the Masai system of relationship. *Journal of the Royal Anthropological Institute* 40:473-82.
- HOLMBERG, A. 1950. *Nomads of the long bow*. Washington, D.C.: Smithsonian Institution.
- HONIGMANN, J. J. 1949. *The culture and ethos of Kaska society*. New Haven: Yale University Press.
- . 1954. *The Kaska Indians: An ethnographic reconstruction*. New Haven: Yale University Press.
- . 1957. "Women in West Pakistan," in *Pakistan*. Edited by S. Maron. New Haven: HRAF Press.
- HOPEN, C. E. 1958. *The pastoral Fulbe family in Gwandu*. London: Oxford University Press.
- HOWELL, W. 1908-10. The Sea Dyak. *Sarawak Gazette* 38-40.
- HULBERT, H. B. 1902. The status of women in Korea. *Korea Review* 2:1-59.
- . 1906. *The passing of Korea*. New York: Doubleday.
- HULSTAERT, G. E. 1938. *Marriage among the Nkundu*. Brussels: Librairie Falk fils.
- HUNT, EDWARD E., D. KIDDER, AND DAVID M. SCHNEIDER.

1949. *The Micronesians of Yap and their depopulation*. Washington, D.C.: National Research Council.
- HUXLEY, M., AND C. CAPA. 1964. *Farewell to Eden*. New York: Harper and Row.
- JACKSON, F. G. 1895. *The great frozen land*. London: Macmillan.
- JACOBSON, PAUL H. 1959. *American marriage and divorce*. New York: Rinehart.
- JENNESS, D. 1922. *The life of the Copper Eskimo*. Ottawa: F. A. Acland.
- JOCHELSON, W. 1926. *The Yukaghirs and the Yukaghirized Tungus*. New York: G. E. Stechert.
- JUNOD, H. A. 1927. *The life of a South African tribe*. London: Macmillan.
- KAHN, M. C. 1931. *Djuka: The Bush Negroes of Dutch Guiana*. New York: Viking Fund.
- KARSTÉN, R. 1935. *The headhunters of western Amazonas*. Helsingfors: Centraltryckeriet.
- KEANE, A. H. 1884. On the Botocudos. *Journal of the Royal Anthropological Institute* 13:199–213.
- KENYATTA, J. 1953. *Facing Mount Kenya*. London: Secker and Warburg.
- KOPYTOFF, I. 1964. *The Suku of Southwest Congo*. Pittsburgh: HRAF Press.
- KRÄMER, A., AND H. NEVERMANN. 1938. *Ralik-Ratak*. Hamburg: Friederichsen, de Gruyter.
- KROEBER, A. L. 1925. *Handbook of the Indians of California*. Washington, D.C.: Government Printing Office.
- KURLAND, JEFFREY A., AND STEVEN J. C. GAULIN. 1984. "The evolution of male parental investment: Effects of genetic relatedness and feeding ecology on the allocation of reproductive effort," in *Primate paternalism*. Edited by David Taub, pp. 259–308. New York: Van Nostrand Reinhold.
- LAMBRECHT, F. 1932–41. *The Mayawyaw ritual*. Publications of the Catholic Anthropological Conference 4.
- LANCASTER, JANE B., AND CHET LANCASTER. 1983. "Paternal investment: The hominid adaptation," in *How humans adapt: A biocultural odyssey*. Edited by D. Ortner. Washington, D.C.: Smithsonian Institution.
- LEACH, EDMUND R. 1957. Aspects of bridewealth and marriage stability among the Kachin and Lakher. *Man* 57:50–55.
- . 1961. *Rethinking anthropology*. New York: Humanities Press.
- LE CLERCQ, C. 1910. *New relations of Gaspesia*. Toronto: Champlain Society.
- LEE, RICHARD B., AND IRVEN DEVORE. 1968. *Man the hunter*. Chicago: Aldine.
- LÉVI-STRAUSS, CLAUDE. 1948. *Family and social life of the Nambikwara Indians*. Paris: Société des Américanistes.
- . 1949. *The elementary structures of kinship*. Boston: Beacon Press.
- LHOTE, H. 1944. *Les Touaregs du Hoggar*. Paris: Payot.
- LIN, Y. 1947. *The Lolo of Liang-Shan*. Shanghai: Commercial Press.
- LINTON, RALPH. 1933. *The Tanala, a hill tribe of Madagascar*. Field Museum of Natural History Anthropological Series 22.
- LIPS, J. E. 1947. Naskapi law: Law and order in a hunting society. *Transactions of the American Philosophical Society, n.s.*, 37:379–492.
- LITTLE, K. L. 1951. *The Mende of Sierra Leone*. London: Routledge and Kegan Paul.
- LOEB, E. M. 1926. *Pomo folkways*. Berkeley: University of California Press.
- LORIMER, DAVID. 1935. *The Burushaski language*. Oslo: H. Aschehoug.
- LORIMER, EMILY O. 1935. *Language hunting in the Karakoram*. London: Allen and Unwin.
- LOTHROP, S. K. 1928. *The Indians of Tierra del Fuego*. New York: Museum of the American Indian.
- LOVEJOY, C. OWEN. 1981. The origin of man. *Science* 211:341–50.
- LOW, BOBBI S. 1988. Measures of polygyny in humans. *CURRENT ANTHROPOLOGY* 29:189–94.
- LUMHOLTZ, C. 1902. *Unknown Mexico*. New York: Scribner.
- LUZBETAK, L. J. 1951. *Marriage and the family in Caucasia*. Vienna: St. Gabriel's.
- MC CULLOCH, M. 1952. *The Ovimbundu of Angola*. London: International African Institute.
- MC ILWRAITH, T. F. 1948. *The Bella Coola Indians*. Toronto: University of Toronto Press.
- MC LENNAN, J. F. 1865. *Primitive marriage*. Chicago: University of Chicago Press.
- MAIR, LUCY. 1934. *An African people in the twentieth century*. London: Routledge.
- . 1940. *Native marriage in Buganda*. International Institute of African Languages and Cultures Memorandum 19.
- MALINOWSKI, BRONISLAW. 1922. *Argonauts of the western Pacific*. New York: Dutton.
- . 1929. *The sexual life of savages*. London: Routledge.
- MAN, E. H. 1932a. *The Nicobarese Islands and their people*. Guilford: Billing.
- . 1932b. *On the aboriginal inhabitants of the Andaman Islands*. London: Royal Anthropological Institute.
- MARSHALL, LORNA. 1959. Marriage among !Kung Bushmen. *Africa* 29:335–64.
- MASTERS, W. 1953. Rowanduz. Ph.D. diss., University of Michigan, Ann Arbor, Mich.
- MAYBURY-LEWIS, DAVID. 1967. *Akwé-Shavante society*. Oxford: Clarendon Press.
- MEAD, MARGARET. 1930. *Growing up in New Guinea*. New York: William Morrow.
- . 1934. *Kinship in the Admiralty Islands*. New York: American Museum of Natural History.
- . 1956. *New lives for old: Cultural transformation, Manus 1928–1953*. New York: William Morrow.
- MESSING, S. D. 1957. The Highland Plateau Amhara of Ethiopia. Ph.D. diss., University of Pennsylvania, Philadelphia, Pa.
- MINER, H. 1965. *The primitive city of Timbuctoo*. New York: Doubleday.
- MONAHAN, T. P. 1955. Is childlessness related to family stability? *American Sociological Review* 20:446–56.
- MONTEIL, C. 1924. *The Bambara of Segou and Kaarta*. Paris: Larose.
- MORGAN, LEWIS H. 1877. *Ancient society*. Palo Alto: New York Labor News.
- MORRIS, J. 1938. *Living with Lepchas*. London: Heinemann.
- MUELLER, EVA. 1976. "The economic value of children in peasant agriculture," in *Population and development*. Edited by R. G. Ridker, pp. 98–153. Baltimore: Johns Hopkins University Press.
- MÜLLER, W. 1917. *Yap*. Hamburg: L. Friederichsen.
- MUNRO, NEIL G. 1963. *Ainu creed and cult*. New York: Columbia University Press.
- MURDOCK, GEORGE P. 1934. *Our primitive contemporaries*. New York: Macmillan.
- . 1949. *Social structure*. New York: Free Press.
- . 1957. World ethnographic sample. *American Anthropologist* 59:644–87.
- . 1967. Ethnographic atlas. *Ethnology* 6:109–236.
- MURDOCK, GEORGE P., AND D. O. MORROW. 1970. Subsistence economy and supportive practices: Cross-cultural codes 1. *Ethnology* 9:302–30.
- MURDOCK, GEORGE P., AND DOUGLAS R. WHITE. 1969. Standard cross-cultural sample. *Ethnology* 8:329–69.
- MURDOCK, GEORGE P., AND S. F. WILSON. 1972. Settlement patterns and community organization: Cross-cultural codes 3. *Ethnology* 11:254–97.
- MURPHY, ROBERT. 1954. The rubber trade and the Mundurucu village. Ph.D. diss., Columbia University, New York, N.Y.
- . 1960. *Headhunter's heritage*. Berkeley: University of California Press.
- MURPHY, R., AND B. QUAIN. 1955. *The Trumai Indians of central Brazil*. New York: J. J. Augustin.
- MUSIL, A. 1928. *The manners and customs of the Rwala Bedouins*. New York: American Geographical Society.
- MUSTERS, G. C. 1873. *At home with the Patagonians*. London: John Murray.
- NADEL, S. F. 1947. *The Nuba*. London: Oxford University Press.

- NAG, MONI, B. WHITE, AND R. PEET. 1978. An anthropological approach to the study of the economic value of children in Java and Nepal. *CURRENT ANTHROPOLOGY* 19:293-306.
- NATIONAL CENTER FOR HEALTH STATISTICS. 1977. *Vital statistics of the United States*. Vol. 3. *Marriage and divorce*. Washington, D.C.: Government Printing Office.
- NIMMO, A. H. 1972. *The sea people of Sulu*. San Francisco: Chandler.
- NIMUENDAJÚ, C. 1946. *The Eastern Timbira*. Berkeley: University of California Press.
- NORDENSKIÖLD, E. 1938. *An historical and ethnological survey of the Cuna Indians*. Göteborg: Göteborg Museum.
- OLIVER, D. L. 1955. *A Solomon Island society*. Cambridge: Harvard University Press.
- OPLER, M. 1941. *An Apache life-way*. Chicago: University of Chicago Press.
- OPLER, M., AND R. D. SINGH. 1958. "The division of labor in an Indian village," in *A reader in general anthropology*. Edited by Carleton S. Coon. New York: Holt.
- ORIAN, GORDON H. 1969. On the evolution of mating systems in birds and mammals. *American Naturalist* 103:589-603.
- OSGOOD, CORNELIUS. 1951. *The Koreans and their culture*. New York: Ronald Press.
- . 1958. *Ingalik social culture*. New Haven: Yale University Press.
- PAIGE, KAREN, AND JEFFREY M. PAIGE. 1981. *The politics of reproductive ritual*. Berkeley: University of California Press.
- PATAI, R. 1959. *Sex and family in the Bible and the Middle East*. New York: Doubleday.
- PARRY, N. E. 1932. *The Lakhers*. New York: Macmillan.
- PEHRSON, ROBERT N. 1957. *The bilateral network of social relations in Kōnkāma Lapp district*. Indiana University Research Center in Anthropology, Folklore, and Linguistics publ. 3/International Journal of American Linguistics, pt. 2, 23[1].
- PORTER, D. 1823. *A voyage in the South Seas in the years 1812-14*. London: Sir Richard Phillips.
- POSPISIL, LEOPOLD. 1958. *Kapauku Papuans and their law*. New Haven: Yale University Press.
- POWDERMAKER, H. 1933. *Life in Lesu*. New York: Norton.
- RADCLIFFE-BROWN, A. R. 1922. *The Andaman Islanders*. Cambridge: Cambridge University Press.
- RATTRAY, R. S. 1927. *Religion and art in Ashanti*. Oxford: Clarendon Press.
- . 1929. *Ashanti law and constitution*. Oxford: Clarendon Press.
- . 1932. *The tribes of the Ashanti hinterland*. Oxford: Clarendon Press.
- RICHARDS, AUDREY. 1939. *Land, labour, and diet in Northern Rhodesia: An economic study of the Bemba tribe*. London: Oxford University Press.
- . 1956. *Chisungu: A girls' initiation ceremony among the Bemba of Northern Rhodesia*. London: Faber and Faber.
- RIVERS, W. H. R. 1906. *The Todas*. London: Macmillan.
- ROSCOE, J. 1911. *The Baganda: An account of their native customs and beliefs*. London: Macmillan.
- ROTH, H. L. 1892. The natives of Borneo. *Journal of the Anthropological Institute of Great Britain and Ireland* 21:110-37.
- RUBIN, Z. 1970. *Love*. New York: Macmillan.
- SCHAPERA, ISAAC. 1930. *The Khoisan peoples of South Africa: Bushmen and Hottentots*. London: Routledge.
- SCHEBESTA, P. 1954. *The Negritos of Asia*. Vienna: St.-Gabriel-Verlag.
- . 1973. *Among the forest dwarfs of Malaya*. London: Oxford University Press.
- SCHNEIDER, DAVID M. 1955. "Abortion and depopulation on a Pacific island," in *Health, culture, and community*. Edited by B. Paul. New York: Russell Sage Foundation.
- SCOTT, J. G. 1910. *The Burman: His life and notions*. New York: Macmillan.
- SEELAND, N. 1882. *Die Ghiliaken*. St. Petersburg: Verlag der Kaiserlichen Hofbuchhandlung H. Schmitzdorff.
- SELIGMAN, G. C., AND B. Z. SELIGMAN. 1911. *The Veddas*. Cambridge: Cambridge University Press.
- . 1932. *Pagan tribes of the Nilotic Sudan*. London: Routledge.
- SERPENTI, L. M. 1965. *Cultivators in the swamps*. Assen: Van Gorcum.
- SHARP, L., AND L. M. HANKS. 1978. *Bang Chan: Social history of a rural community in Thailand*. Ithaca: Cornell University Press.
- SHIROKOGOROFF, S. M. 1924. *Social organization of the Manchus*. Shanghai: Royal Asiatic Society.
- SILK, JOAN B. 1980. Adoption in Oceania. *American Anthropologist* 82:799-820.
- SMITH, MARY. 1954. *Baba of Karo: A woman of the Muslim Hausa*. London: Faber and Faber.
- SMITH, MICHAEL. 1955. *The economy of Hausa communities of Zaria*. London: Her Majesty's Stationery Office.
- SMITH, W., AND JACK ROBERTS. 1954. *Zuni law*. Cambridge: Harvard University Press.
- SPENCER, W. B., AND F. J. GILLEN. 1927. *The Arunta: A study of a Stone Age people*. London: Macmillan.
- SPIER, LESLIE. 1928. *Havasupai ethnography*. New York: American Museum of Natural History.
- . 1930. *Klamath ethnography*. Berkeley: University of California Press.
- STAIR, J. B. 1897. *Old Samoa, or Flotsam and jetsam from the Pacific Ocean*. London: Religious Tract Society.
- STENNING, D. J. 1959. *Savannah nomads*. London: Oxford University Press.
- STEPHENS, WILLIAM. 1963. *The family in cross-cultural perspective*. New York: Holt, Rinehart and Winston.
- STIRLING, PAUL. 1957. *Land, marriage, and the law in Turkish villages*. Paris: UNESCO.
- . 1965. "The domestic cycle and the distribution of power in Turkish villages," in *Essays in the social anthropology of the Mediterranean*. Edited by J. Pitt-Rivers. Paris: Mouton.
- STRASSMAN, BEVERLY I. 1981. Sexual selection, paternal care, and concealed ovulation in humans. *Ethology and Sociobiology* 2:31-40.
- STONE, DORIS. 1949. *The Boruca of Costa Rica*. Cambridge: Harvard University Press.
- . 1962. *The Talamancan tribes of Costa Rica*. Cambridge: Harvard University Press.
- STOUT, D. B. 1947. *San Blas Cuna acculturation: An introduction*. New York: Viking Fund.
- SWANTON, J. R. 1911. *Indian tribes of the Lower Mississippi Valley*. Washington, D.C.: Government Printing Office.
- . 1928. *Religious beliefs and medical practices of the Creek Indians*. Washington, D.C.: Government Printing Office.
- SYMONS, DONALD. 1979. *The evolution of human sexuality*. New York: Oxford University Press.
- . 1987. "If we're all Darwinists, what's the fuss about?" in *Sociobiology and psychology*. Edited by Charles Crawford, J. Krebs, and Martin Smith. Hillsdale, N.J.: Erlbaum Associates.
- . 1988. A critique of Darwinian anthropology. *Ethology and Sociobiology* 10:79-94.
- TAYLOR, D. M. 1946. Kinship and social structure of the Island Carib. *Southwestern Journal of Anthropology* 2:180-212.
- THEVET, A. 1878. *The peculiarities of French America*. Paris: Maisonneuve.
- THORNHILL, RANDY, AND NANCY WILMSEN THORNHILL. 1983. Human rape: An evolutionary analysis. *Ethology and Sociobiology* 4:137-73.
- THORNTON, ARLAND. 1977. Children and marital stability. *Journal of Marriage and the Family* 39:531-40.
- TITIEV, M. 1951. *Araucanian culture and tradition*. Ann Arbor: University of Michigan Press.
- TOOKER, E. 1964. *An ethnography of the Huron Indians, 1615-1649*. Washington, D.C.: Government Printing Office.
- TORDAY, E., AND T. A. JOYCE. 1906. Notes on the ethnography of the Bayaka. *Journal of the Royal Anthropological Institute* 36:39-58.
- TRIVERS, ROBERT L. 1972. "Parental investment and sexual

A Discipline Divided: Acceptance of Human Sociobiological Concepts in Anthropology¹

LEONARD LIEBERMAN

Department of Sociology, Anthropology and Social Work, Central Michigan University, Mt. Pleasant, Mich. 48859, U.S.A. 31 v 89

In 1904 Franz Boas predicted that "the time is rapidly drawing near when the biological branch of anthropology will be finally separated from the rest and become a part of biology" (1972 [1904]:272). Over 70 years later, E. O. Wilson announced that a new synthesis would unify biology and the human sciences within the paradigm called sociobiology (1975b). Among the many responses was that of the cultural anthropologist and iconoclast Leacock (1980), who contended that Wilson's new synthesis was unnecessary, since biology and culture had already been united by the "anthropological synthesis." Subsequently, three biological anthropologists defined human sociobiology as "the study of human behavior based on a Darwinian paradigm" and announced that "the last two decades have seen an exuberant incorporation of evolutionary reasoning into psychology, cultural anthropology, and other behavioral sciences" (Harpending, Rogers, and Draper 1987:127).² The purpose of this paper is to examine the extent to which biological anthropology has moved toward biology as Boas predicted and the extent to which cultural anthropology has embraced evolutionary reasoning. I am inquiring, in other words, about the degree to which anthropologists have adopted the basic concepts of sociobiology and how we may understand their response to the challenge from evolutionary biology.

In the fall of 1984, questionnaires were mailed (see Dillman 1978) to members of three scientific subdisciplines: biologists specializing in animal behavior, biological anthropologists, and cultural anthropologists. These scientists are all located in Ph.D.-granting institutions and are likely to be involved in research and teaching.³ They may, therefore, be highly influential in deter-

1. © 1989 by The Wenner-Gren Foundation for Anthropological Research. All rights reserved 0011-3204/89/3005-0006\$1.00. This paper was presented at the International Congress of Anthropological and Ethnographic Sciences, Zagreb, Yugoslavia, in July 1988. Gratitude is expressed to the scientists who completed questionnaires and provided comments about the research. The project would not have been possible without the support of the University Research Professorship Program and the Faculty Committee on Research and Creative Endeavors of Central Michigan University.

2. They were referring to what they called "analytical cultural anthropology" rather than to interpretive-descriptive versions.

3. Although full- and part-time faculty are included, their responses, generally similar within each subdiscipline, are not reported separately because of space limitations.

- selection," in *Sexual selection and the descent of man*. Edited by Bernard Campbell, pp. 136-79. Chicago: Aldine.
- . 1985. *Social evolution*. Menlo Park: Benjamin/Cummings.
- TSCHOPIK, H. 1946. *The Aymara*. Washington, D.C.: Smithsonian Institution.
- TUDEN, A., AND C. MARSHALL. 1972. Political organization. *Ethnology* 11:436-64.
- TURKE, PAUL W. 1984. Effects of ovulatory concealment and synchrony on protohominid mating systems and parental roles. *Ethnology and Sociobiology* 5:33-44.
- . 1988a. "Helpers at the nest: Childcare networks on Ifaluk," in *Human reproductive behaviour: A Darwinian perspective*. Edited by Laura Betzig, Monique Borgerhoff Mulder, and Paul Turke, pp. 173-88. Cambridge: Cambridge University Press.
- . 1988b. Evolution and the demand for children. *Population and Development Review*. In press.
- . 1988c. Resources, reproduction, and fertility. MS.
- TURNBULL, COLIN. 1965. *Wayward servants*. Westport, Conn.: Greenwood Press.
- TURNER, G. 1884. *Samoa, a hundred years ago and long before*. London: Macmillan.
- TYLOR, EDWARD B. 1889. On a method of investigating the development of institutions. *Journal of the Royal Anthropological Institute* 18:245-69.
- UCHENDU, V. C. 1965. *The Igbo of southeast Nigeria*. New York: Holt, Rinehart and Winston.
- UNDERHILL, RUTH. 1939. *Social organization of the Papago Indians*. New York: Columbia University Press.
- UNITED NATIONS. 1977. *Demographic yearbook*. New York: Office of Public Information at the United Nations.
- VAILLANT, G. C. 1941. *Aztecs of Mexico: Origin, rise, and fall of the Aztec nation*. New York: Doubleday.
- VENIAMINOV, I. 1840. *Notes on the islands of the Unalaska District*. St. Petersburg: Russian-American.
- VLASSOFF, M. 1982. Economic utility of children and infertility in rural India. *Population Studies* 36:45-59.
- VREELAND, H. H. 1953. *Mongol community and kinship structure*. New Haven: HRAF Press.
- WHITE, DOUGLAS R. 1988. Rethinking polygyny: Co-wives, codes, and cultural systems. *CURRENT ANTHROPOLOGY* 29:529-58.
- WHITE, DOUGLAS R., AND MICHAEL BURTON. 1988. Causes of polygyny. *American Anthropologist* 90:871-87.
- WHITE, DOUGLAS R., MICHAEL BURTON, AND MALCOLM M. DOW. 1981. Sexual division of labor in African agriculture: A network autocorrelation analysis. *American Anthropologist* 83:824-49.
- WHITING, BEATRICE. 1950. *Paiute sorcery*. New York: Viking Fund.
- WHITING, JOHN. 1941. *Becoming a Kwoma*. New Haven: Yale University Press.
- . 1964. "Effects of climate on certain cultural practices," in *Explorations in cultural anthropology*. Edited by W. H. Goodenough, pp. 511-44. New York: McGraw-Hill.
- WHYTE, M. 1978. Cross-cultural codes dealing with the relative status of women. *Ethnology* 17:211-37.
- WILSON, M. H. 1951. *Good company: A study of Nyakyusa age-villages*. London: Oxford University Press.
- . 1957. *Rituals of kinship among the Nyakyusa*. London: Oxford University Press.
- WILLIAMS, F. E. 1930. *Orokaiva society*. London: Oxford University Press.
- WILLIAMS, GEORGE C. 1966. *Adaptation and natural selection: A critique of some current evolutionary thought*. Princeton: Princeton University Press.
- WOODBURN, JAMES. 1968a. "Stability and flexibility in Hadza residential groupings," in *Man the hunter*. Edited by Richard B. Lee and Irven DeVore, pp. 103-10. Chicago: Aldine.
- . 1968b. "An introduction to Hadza ecology," in *Man the hunter*. Edited by Richard B. Lee and Irven DeVore, pp. 49-55. Chicago: Aldine.